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ORIGINAL ARTICLES.

CLINICAL CONTRIBUTIONS TO THE SUBJECT OF BRAIN-SURGERY.

BY ROSWELL PARK, A.M., M.D.,

PROFESSOR OF SURGERY IN THE MEDICAL DEPARTMENT OF THE UNIVERSITY OF BUFFALO; SURGEON TO THE BUFFALO GENERAL HOSPITAL.

IT is my intention in the following paper to report and comment upon certain personal experiences in the rather new field of intra-cranial surgery, illuminated, as it has been, by the light of recent researches, rather than to endeavor to present any new aspects of the subject. After one has done a certain amount of this kind of work, his experience and deductions become of value to others, and the sole purpose of the present communication is to make it as helpful to others as possible. I do not intend to touch upon all possible phases of the subject, but rather upon some of the more common cases of this general character; neither is this intended to be a comprehensive or complete personal record. The instances reported are simply some that have been selected from a much larger number because they appear to me to be of interest. Hence the frequent use of the personal pronoun.

INTRA-CRANIAL ABSCESS.

As is well known, abscess of the brain must be the result either of direct infection or of embolic disturbance. It is sometimes easy to trace the latter; explanation of the former is frequently much more difficult. While it is generally acknowledged that abscess of the brain may follow external injury to the skull, it is usually difficult to fully appreciate the minute mechanism of its production, and although a collection of pus may be found directly beneath and two inches below an external scar, we may be absolutely unable to demonstrate the path pursued by the agents that have produced it. In the following case, which I shall briefly report, the path of infection is made reasonably clear.

The case concerns a lady approaching elderly life, from whose upper nasal passage on one side a polyp was removed by Dr. Hinkel, of Buffalo. At first she did well; but, later, rather severe nasal symptoms presented themselves, and at the expiration of about four weeks she developed brain-symptoms and became unconscious. In this condition, Dr. Putnam, together with Dr. Hinkel, diagnosticated a probable brain-abscess. With these two gentlemen, I saw the woman and fully concurred in their diagnosis. In this comatose condition there were no localizing symptoms whatever, and it was from inference, rather than from any safer guide, that we decided to explore the frontal lobe. Accordingly, without an anesthetic, I raised a frontal flap, and made a good-sized trephine-opening about 2.5 cm. above the orbit on the side from which the polyp had been removed. After opening the dura, which appeared normal, I used the needle of an exploring syringe and passed it in in several directions, once quite through the falx and 3 cm. into the other hemisphere, searching for pus. Upon the fourth or fifth attempt it was found directly back of the trephine-opening, and at a depth of about 3 cm. The abscess-cavity was then freely opened, and 12 c.c. of fresh pus were evacuated. The cavity was drained with rubber tubing, and the wound closed and dressed.

The patient never recovered consciousness, but died the following day. Examination was fortunately permitted, and it was found that on the other side, in almost exactly the corresponding locality, was a similar collection of pus of about the same amount. The point of my needle must have gone within a very short distance of it, although it was completely missed.

Here was a case similar to others that have been noted, in which the surgeon is deluded into contenting himself with the discovery of one brain-abscess, while more or less narrowly missing others in its neighborhood. At the same time it must be said that there was absolutely nothing about the case to lead to a suspicion of trouble other than that discovered, which seemed ample for an explanation of the symptoms presented.

The case is also of pathologic interest, as it gives a clinical demonstration of recently discovered anatomic facts concerning the lymph-vascular connection between the nasal region and the encephalon. It moreover indicates a possible source of danger in operations within the nasal cavity.

HEMORRHAGE.

One of the most complete demonstrations of the formation of clot, and the proper measure for its removal, that I have ever seen, was the following:

In February, 1889, a young man in an adjoining town was injured by a falling board, which inflicted a large scalp-wound near the left parietal eminence. He was stunned, but quickly recovered consciousness, and was attended by a local physician, who

showed himself not keenly alive to modern practice in this regard, and who sewed up the scalp wound without any of the precautions at present customary. He was then put on the train and sent to the Buffalo General Hospital, which he reached in the evening. On his arrival at the station, where he was met by the ambulance, it was noted that he used his right arm, but that during the quarter of an hour spent in the removal to the institution he lost the use of it. When he entered the hospital he was able to talk, but within half an hour he lost his power of speech, and within an hour was completely aphasic, with right brachial monoplegia. I did not see him until the following morning, when the house-staff had him ready for operation. His condition had not become aggravated during the night. Naturally the diagnosis was that of clot pressing upon certain centers, and the indication for operation was most plain. After anesthetizing him, I found considerable external injury of the soft parts, with apparently local signs of infection. After such cleansing and disinfection as was possible, I found a depressed fracture about the size of a nickel five-cent piece.

The trephine was applied at a point over the arm-center and speech-center, and a considerable portion of slightly depressed bone was removed, its inner table being considerably splintered. There was no laceration of the dura, which, however, was dark in hue and bulged into the wound. Upon making a small incision a piece of clot was expelled from the dural wound, and literally ejected to a distance of fifteen or eighteen inches, showing the degree of intra-cranial pressure. Enlarging the incision, a considerable quantity of clot, fully two tablespoonfuls, was removed with probe, spoon, and irrigating stream. A number of small brain-fragments were also extruded, showing that there had been laceration beneath the unbroken dura.

His condition was not materially changed by the operation, and three days later the wound was found united without any pus. On the following day, however, the temperature quickly rose, the flap bulged somewhat, and upon removing some stitches considerable pus was discharged. It will be sufficient to state, in this case, that the patient manifested no improvement, but became weaker and died some weeks later, and that upon autopsy three deep abscesses were found, apparently in the path of motor conduction, which would probably account for the fact that no new localizing symptoms developed themselves.

This was clearly an instance of primary infection from a head-injury, which subsequent endeavors were powerless to avert, and illustrates very forcibly the general statement that the fate of such cases is really in the hands of the man who first attends them. A corollary is that if the first aid rendered is not based upon aseptic principles, the case is usually thereby placed beyond the pale of surgical help.

Another case of hemorrhage of different character and happier termination is the following:

A lad of fifteen was, in June of the present year, struck on the right side of his head by a wagon and was unconscious for a time. There was no distinct scalp-wound, only some bruising and ecchymosis. He was attended first by Dr. Schladermund, later by Dr. Dorr. With these gentlemen I saw him six days later. In the meantime no motor or localizing symptoms had developed, but on the previous day his temperature had begun to rise, and he had become very peevish and restless, although he was up and about the house. I could easily feel a flattened and depressed area back of the right parietal eminence. After shaving the scalp it was found ecchymotic above and behind the ear. On raising it the periosteum was found separated from the underlying bone, and an irregular, V-shaped, linear fissure with depression was found. The trephine was applied 5 cm. away from the ear, on a line from the meatus to the vertex. Immediately upon raising the button of bone, I came upon a very firm extra-dural clot in which organization had begun, and which, after cutting away a large amount of bone, I found to cover an area 6 by 10 cm. (equal to 60 sq. cm.), and to be at least 1½ cm. thick in its central portion. So tenacious was it that it was removed only with considerable difficulty. After its removal the brain did not at once rise to its proper level, and I did not think it necessary to open the dura. The wound was closed without drainage, and rapid and perfect recovery ensued.

I have seen many large flat clots inside and outside the dura, but never before had thought it possible that a clot of this size and thickness could form with so little mental, psychic, or motor disturbance.

FRACTURES.

The following cases of aggravated and fatal fracture seem to me worthy of mention:

The first was that of a middle-aged man who fell upon a slippery sidewalk and struck upon the back of the head, although his head did not receive the full violence of the fall. He was unconscious from the time of the injury, and was brought to the hospital, and was operated on in the evening a few hours after his injury. At this time he was profoundly comatose, in a rather bad condition generally, with a scalp-wound upon the right side of the head, and an evident depressed fracture. Without an anesthetic, a large flap was raised and revealed an astonishing condition of multiple fracture extending in all directions, the fragments being more or less interlocked until disturbed, after which the more I picked out the more dislocated did the others become, and it seemed as if the skull were cracked into a number of pieces. After commencing the operation there seemed to be no indication just where to stop, except the strength of the patient. The longitudinal sinus had been penetrated by a spicule and bled viciously on removal of the little fragment. So much blood was lost before this could be effectually closed that I hastily discontinued further attempts, and bent my energies to getting him off the table alive. He died shortly after the dressings were completed. His

skull was thin, the bones seemed rather brittle, but this was the most extensive fracture following a common injury that I have ever met with.

A second case of this character was that of a man of forty, who, on the 4th day of April, 1892, fell from a height not exceeding five feet, and was found unconscious. Accounts differ as to whether a stone fell with him and struck his head or not, but at all events there were no perceptible bruises on that or any other part of the body. On the morning following the injury he was up and about the house, walking, using his hands, but not talking, only replying by an inarticulate murmur to questions, *i. e.*, with aphonia. The evacuations were naturally attended to. During the third night following the injury he became hemiplegic on the right side, and next morning was comatose. I saw him with Drs. Harrington and Niemand, and found the right side absolutely paralyzed; the man presented all the ordinary signs of compression, save that the pupils responded to light. On careful palpation no tumor could be detected, nor any external evidence of fracture.

The conjunctiva of the right eye was suffused, but not that of the left. As a last resort, operation was undertaken, to see if brain-pressure could be relieved. A very little chloroform was required. A large 5 cm. trephine was applied over the left motor area rather low down, and this in spite of the fact that, now that his head was shaved, we could see a faint linear ecchymosis behind the opposite (right) ear. Even now, before exposing the bone, we could detect no certain sign of fracture, although fracture at the base was suspected. The skull was of average thickness. After removing the button of bone the dura appeared a little darker than natural. It was opened, and it was seen that there was some laceration of the brain-substance. The most striking feature was the markedly increased intra-cranial pressure. On further exploration a little clot was removed from beneath the dura, but the pressure increased. I then passed the needle of an exploring syringe in the direction of the lateral ventricle. At a depth of 6 cm. I found fluid blood and removed 12 or 15 c c. with the syringe. I then passed a director down alongside the needle and evacuated more than 30 c.c. of semi-fluid blood. After its removal the pressure was so reduced that the cortex subsided below the proper level, and the man at once began to move his right arm. I then passed a catgut drain into the ventricle and closed the dura and external wound. The patient displayed little or no signs of shock, but died four hours later of pulmonary edema. A hurried autopsy was made, and upon removing the calvarium it was found that there was complete diastasis of the longitudinal suture extending well down anteriorly and posteriorly, and that the halves of the skull were almost ready to fall apart. Their level, however, was not altered, and with all the work that I did upon the skull during the operation, no such fracture as this was suspected. A line of fracture was also found running down toward the right ear below the ecchymotic spot already noted. There were several small clots just beneath the dura, scattered over the surfaces of both hemispheres, and upon the right side some plastic exudate. At the base, especially in the right anterior fossa, was considerable thin clot. In the left hemisphere, about an inch beneath Broca's center, was a firm clot of the size of a grape. Numerous minute hemorrhages bespoke the extensive lacerations inflicted upon the brain.

Here again surprise is excited that so many and such lesions can occur with so slight immediate serious signs and results.

A few years ago, alluding to trephining for intra-cranial hemorrhage, Hutchinson said that "the modern annals of surgery do not contain any cases of hemorrhage in which life has been saved by trephining for this state of things." This statement was put on record, although at the time numerous cases were in print which completely disproved it, and of which its writer seemed to be ignorant. At present that surgeon must be considered as reprehensible who fails to open the skull in every case in which indications of early or late hemorrhage are met with aside from the localizing symptoms commonly looked for. It is stated that high temperature coming on suddenly, with slow stertorous respiration, diminishing consciousness and hemiplegia after an interval of consciousness, may be regarded as conclusive evidence of hemorrhage from the middle meningeal artery. Of the brilliant results that have followed the diagnosis and exploration of such cases surgical literature is full. The essential advance made has been in systematizing the indications, and popularizing the operative attack. The most progressive surgeons, moreover, are coming to the conclusion that even in cases of mild hemorrhage it is best to trephine, in order to avoid the risks of a small clot retained in the cranial cavity. Indeed, Horsley, to whom we owe so much, is on record as claiming that every case of fracture of the skull should be trephined. For my own part, and so far as the danger of the operation is concerned, I can only say that so far as I know among my own cases, in never a single instance has the essential danger of a patient been enhanced by trephining or other operative attack; and I desire to ally myself with those who consider that trephining, properly done, adds scarcely any appreciable danger, while it offers a most important prospect of relief, and one which no conscientious surgeon would willingly disregard or deprive his patient of.

BRAIN-TUMORS.

With intra-cranial solid tumors I have had comparatively small experience. In one case, referred to me by Dr. Putnam, in which we regarded a tumor as certainly present, but were unable to decide positively whether it was cortical or located along the deep paths of conduction, I made an

exploratory operation, which proved of no avail, and in fact ended fatally within forty-eight hours.

In another case referred to me by the same gentleman, we were both convinced of the presence of a tumor, but regarded it as inaccessible. After watching the patient's suffering for a long time, we decided to operate purely for the relief of tension, and I trephined, doing practically nothing but removing a large area of bone, with complete relief of her distressing headache, which relief continued up to the time of her death from the natural consequences of the disease. I have seen quite a number of cases of brain-tumor with reference to operation, but have in most of them declined to operate, while in those in which I was willing to do my part, the patients have declined the proffered relief. A somewhat perplexing case came under my notice not long ago, in the person of an elderly woman, who fell down stairs and struck her head, and who a few days later became comatose, and developed a peculiar sighing respiration with frequent hiccough. I was invited by Dr. Diehl to see her with reference to operation, but could find no operative indications. She died on the following day, and on autopsy there was found acute meningitis of ordinary type. On removing the brain, a peculiar condition of the lower surface of the cerebellum was observed, and after its removal a cluster of cystic growths was found, which were attached a little to one side of the middle line, upon the lower surface of the cerebellum, where they had made depressions into which they seemed to fit. One of these was of the size of a small grape, two of the size of large peas, and there were several quite small ones. They had a peculiar pearly sheen, were cystic in character, although their walls were quite thick, and upon minute examination proved to be cholesteatomata. We learned that during the last few months of her life the patient had developed a frequent, though not constantly staggering gait, and that at times she complained of giddiness and vertigo.

EPILEPSY.

No discussion of brain-surgery nowadays, in which the surgical treatment of epilepsy has been disregarded, has been noted in recent surgical literature, and for very obvious reasons. My own experience in this direction has been, I imagine, like that of most other surgeons—*i. e.*, a very mixed and contradictory one. I have had some very brilliant results, and, I think, a few positive cures; and, on the other hand, I have operated without noticing the slightest permanent improvement. In no distinctly epileptic case has any harm been done by the operation, unless there be included in this category two cases of linear craniotomy to be spoken of later. If I may be permitted to state my present opinion concerning the surgical treatment of epilepsy, it would be about as follows: There are certain cases in which prognosis is very favorable; there are others in which the operation must be regarded as an absolute experiment, albeit upon scientific principles; and there are still others which, although accompanied by focal symptoms or other features that ordinarily necessitate operation, we must regard as absolutely hopeless; it is seldom possible to designate to which class a case belongs until the operation is tried. But I think that this statement ought to be tempered by another, to the effect that surgery alone is rarely, if ever, sufficient, and that it must be accompanied and followed, and, perhaps, even be preceded, by medicinal and dietetic treatment, and that this feature of these cases is too often disregarded. To this second statement should be added, perhaps, a third, to the effect that when operating for pronounced epilepsy we have to combat not only a somatic lesion, but an epileptic habit, so to speak, and that a mere removal of the lesion is not necessarily or always enough to break up the well-formed habit; that it is this which calls for the long-continued post-operative treatment which often causes discouragement and carelessness, and, finally, inattention and absolute disappointment. I firmly believe that if those who operate frequently for epilepsy would steadily and subsequently treat their cases by the other measures alluded to, and keep them up for five years, at the expiration of that time much better results would be reported than we now hear of. This refers not only to cases of head-injury in which the conventional operations about the skull are performed, but also to peripheral irritations in other parts of the body, necessitating various other operations.

Of purely head or brain cases of this character, I will only call attention to two or three. One was a case operated on in 1884:

A man aged twenty-three, when a boy, fell into the water and struck upon a submerged timber, and was unconscious for two days afterward; he later developed epilepsy, and was afterward in the hospital on Ward's Island and escaped from there when they proposed operation to him. He was picked up in a fit on a Buffalo street, and sent to our hospital. Upon admission he was having at least one fit every day. There was a distinct depression on one side of the median line. The overlying skin was very sensitive. The operation was performed on December 6, 1884; the bone was very thick (2 cm.), with external depression, but none of the internal table could be made out; the external sensitive area was excised. For some days he was violently disturbed; then he showed material improvement, save that on the last day of the year he had several fits, but none during the preceding ten days. Respiration became so embarrassed as to call

for artificial aid. A few days later he was sent to the Almshouse, where he had a number of seizures, during one of which a pail of cold water was thrown over him. He quickly recovered, and had no more while there. He left the institution in May, was reported as not having had any fits in three months, but has not since been heard from.

The first case attempted in this country in accordance with the principles of cerebral localization was in a patient upon whom I operated Nov. 16, 1886:[1]

The patient was a man of forty-seven, who more than a year previously had been thrown and dragged upon the ground. Four hours later he became unconscious, although there was no external violence to the skull. He was unconscious for sixty-eight hours, and gradually recovered. He developed nearly absolute aphasia, his vocabulary being limited to perhaps a half dozen words. His right arm was also paralyzed and cold. His epileptic condition developed four months after his injury, and became very pronounced. His lesion was diagnosticated as cystic degeneration of a clot, and its position correctly determined. Upon trephining it was found as expected, only perhaps larger. A cyst was discovered with capacity of 40 c.c. of fluid, in dimensions 10 by 3 cm. It was dissected out, and the patient made a perfect recovery from the operation. His epileptic and aphasic condition, however, have since then only in small measure improved. This latter condition I can explain by atrophy of the third parietal convolution, due to pressure of the cyst. For the former I can give no more satisfactory explanation than in any such case.

Three or four similar cases in which cysts have been accurately diagnosticated and indicated either by localizing symptoms or by external scars, have been operated upon after much the same fashion, with results in every case encouraging, but in no case completely satisfying. It has seemed that in every case the cyst had existed for a time long enough to produce atrophy of the underlying portion of the hemisphere, with permanent loss or disturbance of its proper functions.

In one case operated upon last year I had an experience with hemorrhage which may be of interest and encouragement to others. It was one of those instances of traumatic Jacksonian epilepsy with a scar near the middle line of the scalp. The operation was without incident until the dura was opened, and adhesions found between it and the cortex. These were tough and firm, and in the endeavor to remove the adherent portion of the cortex some unusually large veins or abnormal connections with the longitudinal sinus were severed, and the bleeding became serious and even alarming. I finally succeeded to my perfect satisfaction, however, in checking it by packing with iodoform-gauze, the tampon of which I retained *in situ* by the pressure of the overlying skin flap, which I restored to its place after inserting secondary sutures of silk, which were left long and tied by a bow-knot. Two days later I untied the knots, lifted up the flap, removed the tampon without a particle of hemorrhage, restored the flap to place, utilized the secondary sutures for its retention, and got beautiful union by first intention. This patient went home very much improved, but during the hot weather of the past summer was, I have been informed, injudicious and had some return of his old trouble, the seizures never being of so serious a character as before, and being quite controllable so long as he takes bromides and borax in ordinary doses—a line of treatment which I have urged him to continue indefinitely.

Last spring, at the meeting of the American Surgical Association in Boston, Dr. Beach, of that city, presented a case operated upon for traumatic epilepsy, in which, in order to prevent the re-formation of adhesions between the dura and the other tissues he had inserted a piece of thin gold foil, carefully sterilized, with apparently the best results. Following his example, I have twice operated in the same way, cutting out with a pattern a piece of dentist's foil a little larger than the bone opening, and fitting it in, after closing the dura, between it and the margin of the bony defect, then closing the scalp-wound over it, all without drainage. There has not been the slightest disturbance of any kind, and the progress of these cases, so far as I have been able to judge of them or to hear, has been very encouraging.

This measure (insertion of gold foil) I now intend to introduce and recommend in recent accident cases in which trephining is practised for depressed fractures, etc., for the purpose of preventing adhesions between the scalp and dura.

In another case, in a young lady with Jacksonian epilepsy, in which the aura usually commenced in the arm, and in which there were noticed also what my colleague, Dr. Putnam, has been recently the first to call attention to, namely, sleep-movements in the same arm, I last spring exposed the arm center, determined its exact location with the faradic coil, and excised the same as accurately as I could to the depth of 1 cm. Perfect primary union took place, but the result has been disappointing, there having been only slight amelioration of the symptoms. In her case, however, we have had to contend with peculiar gastric symptoms, dilatation of the stomach, etc., which seem to have had a marked influence in depriving her of the benefits legitimately to have been expected from such an operation. Moreover, she has a peculiar idiosyncrasy, in that she cannot take bromides in any form without the development of intense bromism, her body showing many scars of ulcers produced in the attempt to bring her under the influence of the drug.

(*To be concluded.*)

[1] Vide Trans. Cong. Am. Phys. and Surg., vol. i, p. 285.

AN EPIDEMIC OF MEASLES.[1]

BY L. EMMETT HOLT, M.D.,
PROFESSOR OF DISEASES OF CHILDREN IN THE NEW YORK POLYCLINIC, NEW YORK.

THE study of epidemics of contagious diseases in institutions is always a matter of interest from the fact that the cases can be closely watched and careful records made. The epidemic here reported occurred in the Nursery and Child's Hospital during the months of February, March, and April of the present year. In all there were 143 patients attacked; of these, 75 cases occurred in February, 46 in March, 21 in April, and 1 in May. This epidemic followed the rule that applies to measles that the disease prevails most frequently in the spring months, and that such epidemics are most severe.

Age and susceptibility. Of 62 children over two years of age, 5 had previously had measles in the hospital, and did not take the disease; of the remaining 57 children only 2 escaped; one of these was for weeks constantly exposed, but it did not seem to be susceptible.

There were 117 infants under two years of age who were exposed; of these, 88 took measles, and 29 escaped. Not a single child under six months contracted the disease.

Incubation and spread of the disease. The mode of introduction of the infection could not be traced. Case I was diagnosticated in the reception building Feb. 2d. No other cases occurred here until Feb. 16th (one case), and on Feb. 17th (two cases); after that cases sprang up irregularly. As Case I was removed from the ward on Feb. 2d, the incubation in the three other cases must have been at least fourteen days in one and fifteen in two.

On Feb. 4th a boy showing no symptoms of measles was removed to another building in the hospital known as the East house; two days later the measles rash appeared, and he was immediately isolated. From this child the infection of this building originated. On Feb. 11th the first secondary case appeared here; on Feb. 15th the second case; on Feb. 16th five cases; on Feb. 17th five more cases, and from this time cases sprang up rapidly all over the ward. The cases developing on Feb. 11th could not have had a shorter incubation than five days, or a longer one than seven. In the cases of Feb. 15th it was either nine or eleven days; in those of Feb. 16th, ten or twelve days; in those of Feb. 17th, eleven or thirteen days. These last cases followed the rule that in a great proportion of cases the incubation varies between ten and fourteen days.

Mortality. Of 143 cases, 51, or about 36 per cent., proved fatal. The annexed table shows the relation of the age and mortality:

6 to 12 months,	42 cases.	Mortality 33 per cent.	
1 " 2 years,	51 "	"	50 "
2 " 3 "	27 "	"	30 "
3 " 4 "	20 "	"	14 "
4 " 5 "	3 "	"	0 "

The lower mortality of the first year of life than of the second year is at variance with the statistics of most writers on the subject, and also with my own experience in other epidemics, in which the rule has been that the highest mortality is in the first year of life, with a steady improvement as age advances.

Eruption. Although in the largest number of cases the eruption appeared on the third or fourth day of the disease, the variations were very wide; especially striking were the large number of cases with a short invasion. The day of the disease upon which the rash was first noticed was the first day in 16 cases; second day in 20 cases; third day in 33 cases; fourth day in 34 cases; fifth day in 15 cases; sixth day in 11 cases; seventh day in 2 cases; eighth day in 2 cases; ninth day in 2 cases; after the ninth day in 3 cases. It is to be borne in mind that during this epidemic all of the children in this institution were watched very closely, and it does not seem probable that many errors have crept into these observations.

A very great variety in the character of the eruption was seen, as well as in the time of its appearance. In about two-thirds of the cases it was quite typical and abundant. In the remainder it was sometimes so faint as scarcely to be diagnosticated. In 7 cases it was hemorrhagic, and only one of these recovered.

Temperature. In 129 cases in which the temperature was noted, the initial temperature did not exceed 101.5°. In 64 cases it was 102° or over. Quite surprising was the large number of cases beginning abruptly with high temperature. In no less than 15 cases was the initial temperature 104° or over, although great pains was taken to record the temperature of every child that showed the slightest indisposition.

The highest temperature reached in the disease, when studied side by side with the mortality, is interesting. Thus, of 33 cases in which the temperature did not exceed 104°, only 2 died. Of 28 cases in which it touched 104.5°, 4 died. Of 43 cases in which it touched 105°, 20 died. Of 26 cases in which it touched 105.5 or 106°, 15 died; and of 10 cases in which 106.5°, or over, was noted, but 1 recovered. A temperature, then, of 104°, or 104.5°, may be considered as normal to the disease, but every degree above this point is accompanied by a largely increased mortality.

The typical temperature-curve of a gradual rise and a gradual fall was seen in 52 cases, all of which recovered.

In 8 additional cases the same curve was observed, with the exception that the initial temperature was

[1] Read before the New York Clinical Society, October 27, 1892.

high; it then fell to normal, or nearly so, before the gradual rise.

A third temperature-curve was observed in 26 cases, all of which proved fatal, most of them from pneumonia. In this variety the temperature rose rapidly to 103°, or 104°, and thereafter remained steadily high, or high and fluctuating until death.

The fourth variety was a curve rising gradually to the maximum, this occuring usually on the day of eruption, and thereafter a steadily high temperature until death. This was seen in 20 cases, nearly all of which had pneumonia.

A secondary rise after the temperature of the measles had subsided was seen in 9 cases, 3 being fatal. In 7 of these cases the exacerbation in fever was due to pulmonary disease, once to otitis, and once to entero-colitis.

Quite a surprising thing in many of the cases was the prolonged course of the temperature, even where no complications existed. In 32 uncomplicated cases the primary fever lasted four days or less in 4 cases; from five to eight days in 16 cases; and from nine to thirteen days in 12 cases.

Moderate variations in temperature frequently follow acute febrile processes in children when no cause can be found. Such oscillations as from 99° to 100.5° often continue for a week or ten days, gradually subsiding to the normal.

The duration of the pyrexia in fatal cases varied between five days and three months. In most cases these prolonged elevations of temperature depended upon pulmonary complications.

Complications. By far the most frequent complition was broncho-pneumonia, which occurred in 58 cases, with 40 deaths, or a mortality of 70 per cent. The general impression has always prevailed that the broncho-pneumonia of measles is particularly fatal. I find, however, in comparing these statistics with those of 156 cases of acute primary pneumonia, that the death-rate is identical in the two. These observations have both been made upon children of the same age, class, and surroundings.

While we must admit that measles is a most potent factor in causing pneumonia, it does not appear that the latter disease is more dangerous than when occurring under other circumstances.

The day of development of the pneumonia it is impossible to state with precision. In those cases in which the attack of measles began abruptly with a high temperature, which continued steadily high until the eruption, the pneumonia seemed to have developed from the very first day. In some, the physical signs were unmistakable even before the eruption appeared. In addition to the cases of simple pneumonia, there were three cases of pleuro-pneumonia, one of which went on to empyema. Pleurisy and pericarditis occurred in one case.

Otitis was noted in 20 cases, or 14 per cent. This proportion is very large. I have frequently seen other epidemics in which not a single case was complicated by otitis. The younger the patient, as a rule, the more frequent is this complication. It is seen more frequently in the winter and spring than at any other season. Both ears were affected in 14 cases, one ear only in 6 cases. The most frequent time at which a purulent discharge was noticed was between the eighth to the twelfth days.

Diarrhea was marked enough to be noted in 17 cases. In 11 of these it was severe. In 4 cases the intestinal complication was the cause of death, the cases going on to a well-marked entero-colitis.

Adenitis was marked only in 3 cases, in none of which suppuration took place.

Membranous laryngitis developed in 2 cases, in both of which intubation was done, and both proved fatal from membranous bronchitis and pneumonia. These children were aged two and a half and three years respectively.

Severe catarrhal laryngitis occurred in 4 cases, all recovering. Severe purulent conjunctivitis was seen in 3 cases, gastritis in 1 case, retro-pharyngeal abscess in 1 case, and erysipelas in 1 case. Bronchitis occurred in every severe case. There was nothing noteworthy about any of these complications.

Tuberculosis followed in 3 cases. One of these children died of subacute broncho-pneumonia about four weeks after the measles, the autopsy showing old tuberculous lesions, and some active disease just beginning in the adjacent parts of the lung.

The temperature-chart of the second case I would gladly present in full did space permit. The fever continued without interruption from the attack of measles for three months, until the child died. During the measles the temperature was a typical one, falling to the normal on the twelfth day. It then rose gradually for a week, and from this time fluctuated irregularly between 99° and 102°, occasionally going to 104°. This irregular temperature continued until the last week, during which it ranged between 99° and 101°. It was not hectic at any time.

The child died on the eighty-ninth day from the onset of the measles. Frequent and careful examination of the lungs made for two or three weeks both by physicians of the house-staff and by myself failed to disclose any positive signs in the chest. The patient passed through a moderate attack of diarrhea, from which he recovered; and still his temperature kept up. He did not lose flesh rapidly, but wasted slowly, and became decidedly anemic. He was sent to the country for two weeks, but came back no better than before, and now for the first time—less than three weeks before his death—posi-

tive signs of consolidation were made out at the apex of the left lung. The general symptoms of tuberculosis were now evident, and he failed rapidly until death.

This case is interesting, because of its completeness, as showing the insidious manner in which tuberculosis begins after measles, and also that the general symptoms may for a long time precede the local ones. It is interesting further to note that the child never presented a hectic temperature, although extensive excavation of the lung was found at the autopsy. This case well illustrates the rule that in a vast majority of cases of tuberculosis in infants the temperature-curve differs in no way from that seen in ordinary broncho-pneumonia.

The proportion of cases in which tuberculosis develops after measles is frequently larger than that shown in these statistics. It is not unlikely that the returns in regard to tuberculosis are not yet all in. Why it is that measles is so frequently followed by tuberculosis we cannot positively say. My own belief is that in most such cases there has previously existed latent tuberculosis in the bronchial lymph-nodes, and that under the stimulus of the infection of measles, an acute process is lighted up in the lymph-nodes, resulting in the infection of the lungs themselves. This seems more plausible than that the attack of measles increases the patient's susceptibility, so that he falls a ready victim to tuberculosis on exposure. It is interesting to note, as in the case before us, that tuberculosis may follow, even though the attack of measles be not complicated by pneumonia.

The causes of death in the 51 fatal cases were as follows:

	Cases.
Broncho-pneumonia	37
Pleuro-pneumonia	2
Broncho-pneumonia and empyema	1
Acute pulmonary congestion	1
Pericarditis and pleurisy	1
Tuberculosis	2
Entero-colitis	4
Membranous laryngitis	2
Measles, toxemia	1

The lungs are thus responsible for 41 of the deaths, and only one case died from the disease uncomplicated.

TREATMENT.—In mild cases the treatment, as a rule, resolves itself into isolation of the patient, and keeping him in bed during the attack. In the severe cases it is the pulmonary complications that are of the greatest importance, especially broncho-pneumonia.

Perhaps so high a mortality as 36 per cent. ought to debar us from saying much in favor of the plan of treatment adopted. No one, unless he has gone through an epidemic in an institution containing children of this age, can appreciate the gravity of this disease. An attempt was made to prevent broncho-pneumonia by putting every child to bed at the beginning of the catarrhal symptoms and by keeping him there through the entire febrile period. The oil-silk jacket was applied to the chest as soon as any physical signs of bronchitis appeared.

In the cases in which pneumonia developed, the chief reliance was upon counter-irritation by mustard, five or six times a day; alcoholic stimulants freely administered; for the cough, when distressing, inhalations of various vapors. Other heart-stimulants than alcohol, such as strychnine, strophanthus, and nitro-glycerin, were used in a number of cases, and in only a few the effect seemed beneficial; but, as a rule, they were greatly inferior to alcohol. But little other medicine was given, the plan being to save the stomach as much as possible for food and stimulants.

In two or three cases life was prolonged for several days after the patients were unable to take anything by the mouth by means of gavage or forced feeding, and one infant is now plump and hearty whose life was saved by this method. Both predigested foods and stimulants were administered in this manner with very little disturbance to the patients. In almost every instance the entire amount was retained by the stomach.

During the period of desquamation all children received warm baths and inunctions. Quarantine was generally maintained in uncomplicated cases for four weeks, and no secondary cases were traced to patients who were then distributed through the other wards of the institution.

In a few instances of hyperpyrexia cold baths and cold packs were used, and in these no unfavorable symptoms appeared. In cases with cyanosis, high temperature, and great dyspnea, hot mustard-baths and mustard to the entire body seemed to be more serviceable than any other means employed.

There did not seem to be any great difference in the severity of the cases during the different stages of the epidemic.

Following the reading of the paper, in the discussion by the members of the Society:

DR. D. B. DELAVAN spoke of the scanty attention usually paid to the catarrhal symptoms during and after convalescence, and strongly advocated their more careful treatment, to avoid future trouble from chronic inflammations of the upper air-passages.

DR. G. A. SPALDING called attention to the lowered mortality in older children, describing a recent epidemic of measles at the House of Refuge, in which 90 children, from ten to twenty years of age, were attacked, with only one death, the case being complicated by advanced pulmonary tuberculosis.

DR. W. H. FLINT narrated a case of hemorrhagic measles in which death resulted on the fifth day from sudden heart-failure.

DR. W. H. KATZENBACH presented the history of a case of measles in a three weeks' old baby with a marked tuberculous family history, in which general tuberculosis directly followed the attack of measles.

DR. F. W. JACKSON, in speaking of re-infection, described an outbreak of measles in a family of four children who were successively attacked. During the illness of the child last infected the first child suffered a second attack, seven weeks after the first infection. He asked Dr. Holt how many of his cases suffered from re-infection.

DR. HOLT, in reply, said that possibly two cases were attacked for the second time.

DR. JACKSON also narrated the history of a fatal case of measles in a young girl, complicated by diphtheritic membrane on the tonsils, gums, palate, and in the nose, with necrosis of the septum. He regarded the case of interest, because the patient had been previously healthy, and had lived amid the best hygienic surroundings.

DR. G. M. SWIFT spoke of an epidemic at the Foundling Asylum, in which necrotic inflammations and noma were of frequent occurrence.

DR. BEVERLEY ROBINSON suggested that many cases of perforated septum found after measles might really have preceded that disease.

DR. ROBERT ABBE described three cases of hemorrhagic measles, all occurring in young girls:

The first case developed acute endocarditis during the attack, dying from the heart-complication in one and a half years.

The second case died during the attack, from hematemesis and perforation of a gastric ulcer, which might have been caused by the measles.

The third case recovered even after a complicating pneumonia.

DR. G. R. LOCKWOOD asked whether Dr. Holt's experience had shown that tuberculosis usually developed directly after the measles, or after one or more years, the broncho-pneumonia causing inflammation of the bronchial glands, which subsequently became the seat of tuberculous infection.

DR. HOLT said, in reply, that it was impossible to answer with any degree of certainty, owing to the impossibility of obtaining accurate clinical histories and keeping track of the patients. He thought that tuberculosis might develop at any time, even twenty years after the attack of measles.

He also spoke of the possible connection between mouth-bacteria and pulmonary complications, and advocated great care in cleansing the mouth in every case as a prophylactic measure.

THE NATURE OF SHOCK AND ALLIED CONDITIONS.

BY WM. C. DABNEY, M.D.,
UNIVERSITY OF VIRGINIA, VA.

IT does not seem to be an easy matter to give a good definition of shock. Billings defines it as "the nervous exhaustion and depression of the heart's action, caused by a wound or injury." Gould adds to the causes mentioned by Billings one other, "strong emotion." Keating's definition is as follows: "Nervous shock or sinking; sudden depression and prostration from powerful impression; an indefinite term applied to every grave or fatal source of depression occurring during or after serious surgical operations, injuries, or mental emotion."

Dr. Mansell-Moullin gives a definition which is more exact and more in accord with modern physiologic views. He says the term shock was formerly employed in any case of sudden death or collapse following injury or mental emotion, without discoverable lesion; but it has of late "become more and more definitely associated with the conception of a sudden check to the circulation brought about through the agency of the nervous system, and resulting either in a death so immediate as scarcely to have a parallel, or in a condition of prolonged prostration, with or without a more or less successful reaction."

I propose to consider in the present paper the nature of shock and of certain conditions which resemble it.

With respect to the *symptoms* of shock, we do not find the same vagueness which characterizes the definition of the disturbance given by most writers. The trouble is, unfortunately, sufficiently common for every physician to be familiar with its characteristics.

The most prominent symptoms, as a rule, are pallor, faintness, a rapid and very feeble pulse, extreme nervous depression or lethargy; now and then great excitement, sighing respiration, a cool and clammy skin, depression of temperature, sometimes nausea and vomiting, in mild cases, at times, a watery diarrhea, and in some cases, especially in shock from railway accident, a distention of the bowels with gas, a symptom that seems to have escaped notice, but which is at times exceedingly marked and troublesome.

The tympanites just mentioned deserves a little further notice. Some years ago, after a serious railway accident, I saw four cases in which it was extremely marked. In two of these cases there was fracture of one femnr, but in the others there was no apparent injury, except some bruises, and these were not very marked. The pulse in each case was very soft and compressible, the expression was singularly dull and stupid, and the mental operations were very slow. All these cases ended in recovery, but convalescence was tedious. Constipation, as might reasonably be expected, was troublesome, and there was besides retention of urine for a few days.

The cause of the tympanites in cases of shock is evidently a loss of tone of the muscular coat of the bowel, and this is certainly due to defective nervous action, and, as I shall try to show hereafter, is

very suggestive as to the pathology of many cases of shock.

Before we can profitably consider the essential cause of shock, however, it will be well to consider the circumstances under which it may arise and in what respects it differs from syncope and certain allied conditions. The definitions given state some of the conditions with sufficient distinctness, but it is a suggestive fact that injuries of certain parts of the body are far more liable to cause shock than injuries of other parts. A blow upon the abdomen, for example, is far more liable to cause severe shock than a blow of like violence inflicted elsewhere. Dr. Mansell-Moullin states that no death from such an injury, without discernible lesion, has been reported; but this is clearly a mistake. Flint records such a case in his *Physiology*, and other cases have also been reported. That death may be caused by drinking ice-water in large quantities, when overheated, is a popular impression; but I know of no recorded case of the kind. It is a well-established fact, of importance in this connection, that operations on the abdominal viscera are very liable to occasion shock unless steps are taken to prevent it. But there are other points yet, connected with abdominal affections, which seem to me to throw considerable light on the nature of shock. It is a well-established fact that if, in cases of ascites, the fluid be rapidly withdrawn through a large canula, and no steps be taken to furnish counter-pressure as the fluid is withdrawn, faintness, pallor, a rapid and feeble pulse, and all the other evidences of shock may appear. Then, we sometimes see sudden attacks of extreme pallor and faintness in women after labor who have suddenly assumed the erect position, and these attacks may readily pass on to syncope, unless prompt relief is afforded.

It will be well just here to state the difference between shock and syncope. The only difference, it seems to me, is one of degree. In most cases of shock there is a partial withdrawal of blood from the nerve-centers, and lethargy results, while in syncope a still larger amount of blood is withdrawn, and there is complete loss of consciousness. Nor does the fact that there is sometimes wild excitement in cases of shock militate against this view. It is well known that excitement sometimes occurs in connection with profuse losses of blood, and in the return from syncope.

Injuries of other parts or organs will frequently occasion shock. Injury of the testicles seems especially likely to cause it, and even moderate pressure of these organs will occasion faintness and nausea.

In trying to establish the pathology of shock we should bear in mind the following facts with respect to this trouble:

1. The pulse is rapid, feeble, and soft.
2. The skin is pale.
3. There is great nervous depression.
4. In some cases there may be great tympanites.

There are, of course, other disturbances of the normal physiologic functions, but these are the essential points.

The theories that have been advanced to explain the phenomena of shock are as follows:

1. A spasm of the heart and vessels.
2. Extreme weakness (paresis) of the heart.
3. Dilatation of the large vessels, especially in the abdominal cavity.

1. A slight examination will show that the symptoms of shock cannot be explained by spasm of the bloodvessels, for in such a case the blood-pressure would be increased and the heart's action would be slow.

2. Extreme weakness of the heart may be induced in three ways: (1) By a direct action on the muscular tissue itself or its contained ganglia; (2) by paralysis of the vagus; or (3) by the stimulation, either directly or by reflex action, of the inhibitory fibers of the vagus. The first, the loss of power of the muscular tissue itself, and its contained ganglia, will not explain all of the symptoms of shock, and may be dismissed at once. The paralysis (or paresis) of the vagus may be brought about, as paralysis of any other nerve, in several different ways, namely, some action may be brought to bear on the nerve-center in the brain (by emotional disturbance, probably by certain poisons, or by an impression made on some nerve, at a distance, and transmitted to the brain by the afferent nerves) or on the trunk of the vagus itself, or on some of its branches. In this latter case, however, the action on the heart is probably brought about by reflex influence. In any case, when the vagus itself is paralyzed or paretic, the heart's action becomes rapid and feeble, and many cases of shock are more readily explained in this way than in any other.

But there is yet another way in which weakness of the heart may be caused. If the vagus be irritated in animals the heart becomes slow and its action weak, and if the stimulus be sufficiently intense and prolonged it will stop in diastole. It would appear, also, from the well-known experiments of Goltz, that this "inhibition" of the heart's action may be caused by reflex influence, the irritant being applied to the branches of the vagus, and probably it may only occur when some other afferent nerves are irritated. It is not, probable, however, that shock is often caused in this way, for in cases of shock the pulse is always rapid, instead of slow; but it is possible that some cases of sudden death from shock may be due to a reflex inhibition of the heart's

action. Possibly the cases of sudden death in the course of typhoid fever are to be explained in this way.

3. The dilatation of the large bloodvessels, especially those in the abdominal cavity, seems to me to explain the nature of shock in many cases far better than any other view, though it is probable that in most, if not all cases, there is a reflex paresis of the vagus as well. It is a well-established fact that the vessels in the abdominal cavity, in the so-called splanchnic area, are capable of enormous dilatation, and it is almost certain that the dilatation of these vessels causes the pallor and faintness in the cases of tapping, and after some cases of labor, to which I have already alluded. It is very doubtful whether, under ordinary circumstances, these vessels are capable of sufficient dilatation to cause death or even syncope. Tappeiner's experiments seem to prove this; but in cases in which the vessels have become much enlarged, and, perhaps, more numerous, as in many cases of ascites, or during pregnancy, such a result might readily occur. It is highly probable, as I have before stated, that the action of the heart is also weakened; but the small pulse is, of course, readily explained by the fact that in consequence of the dilatation of the vessels in the splanchnic area but little blood is carried to the heart, and there is consequently but little to be pumped into the vessels.

But we have other and very striking evidence that shock is in many cases due to the dilatation of the vessels in the abdominal cavity—evidence with which surgeons doing abdominal work are especially familiar. If shock occurs during such abdominal operation, nothing revives the patient so quickly as pouring hot water into the abdominal cavity, and it is well known that the effect of the hot water is to cause contraction of the bloodvessels, and thus throw more blood into the general circulation. It has recently been proposed by Kottmann to inject salt solution into the bloodvessels in cases of shock, and one object which he thinks might be attained in this way is to fill the bloodvessels, and thus counteract the distention of the bloodvessels in the abdomen.

A study of the subject has led me to the following conclusions:

1. Shock is not due to a spasm of heart or vessels.

2. It is often due to a paresis of the vagus nerve, caused either (1) *directly* by emotions, severe jars, etc., or (2) by *reflex* influence from injuries of other nerves (certain poisons by *direct* action also cause symptoms much like those of shock).

3. It is questionable if shock is ever due to the inhibitory action of the vagus on the heart's action, but possibly some cases of sudden death from shock may be explained in this way.

4. In many cases shock is due to the dilatation of the vessels in the abdominal cavity, which is often accompanied by a paresis of the vagus nerve.

THE EARLY EXTIRPATION OF TUMORS.

BY JOHN W. S. GOULEY, M.D.,
SURGEON TO BELLEVUE HOSPITAL, NEW YORK.

MOST of the following propositions were submitted for discussion and for an expression of the views of members of the New York State Medical Association concerning the metamorphosis of external tumors, the propriety of their excision in an early stage of development, and the contra-indications of operative interference:

1. There is no solid tumor that may not become malignant.

2. Although metamorphosis of benign into malignant tumors seems to be a well-established fact, the precise time of its beginning has not yet been determined.

3. A stage of benignity has been observed in most malignant tumors. This benign stage is often short, but it sometimes continues many years.

4. Potentially malignant tumors may, with great advantage, be excised during an early period of their stage of benignity.

5. Exclusive medicinal or local treatment of tumors can be of no service, and may be considered as indirectly harmful by preventing or delaying surgical treatment.

6. It is not necessary to make an accurate differential diagnosis of tumors until after their excision.

7. Accessible morbid growths should be excised as soon as discovered, however small or apparently harmless, because they are worse than useless to the human economy, because of their liability to be transformed into malignant tumors, and because no means are yet known by which to ascertain the exact time of the beginning of metamorphic action.

8. Recurring tumors should be excised as soon and as often as they appear, so long as there is enough tissue for cicatrization. In some cases skin-grafting is of the greatest service.

9. Before excision of a malignant breast-tumor, the axilla should be cleared of all lymph-glands, and the last part of the operation should be the removal of the breast, together with the surrounding connective tissue and pectoral fascia.

10. Whenever its locality permits, the wound resulting from the excision of a malignant tumor should be scarred with the thermo-cautery.

11. "Atrophic" carcinomata should be excised in the beginning of fibrous transformation, but should not be removed when in an advanced stage of sclerous degeneration, particularly when metastasis to internal organs has already occurred.

12. Multiple malignant tumors, as a general rule, should not be removed, especially those that are disseminated over a large extent of the body or those that involve many lymph-glands. When, however, one of these tumors is large and interferes with a vital function, or is in a state of ulceration, it should be excised, if only to give temporary relief.

13. External malignant tumors associated with extensive visceral involvement should not be excised, as the operation would not be likely to prolong life.

14. Ulcerated malignant tumors, causing much pain and exhaustion, should be removed to mitigate suffering, even if the operation prolong life only a short time.

15. In the case of large ulcerated carcinomata, when cutting operations are contra-indicated, soothing lotions and disinfecting cataplasms should be frequently applied, opiates should be administered in sufficient quantity to relieve pain, and deodorizers liberally employed.

16. Bleeding malignant tumors require prompt excision to prevent death from hemorrhage, even though the operation serve to prolong life only a few weeks.

17. Malignant tumors of long bones demand radical measures, such as immediate amputation at a considerable distance from the seat of disease. If the tumor be in the middle of the leg, the amputation should be at the knee-joint; if in the thigh, the hip-joint exarticulation would be indicated; if in the forearm, the limb should be removed at the elbow-joint; if in the arm, the limb should be disarticulated at the shoulder-joint.

18. Medicinal treatment, after excision of malignant tumors, should not be ignored, and should consist mainly in the use of reconstituents.

ORIGINAL LECTURE.

THE COLD-BATH TREATMENT OF TYPHOID FEVER.[1]

BY WILLIAM OSLER, M.D.,
PROFESSOR OF MEDICINE IN THE JOHNS HOPKINS UNIVERSITY.

GENTLEMEN: While no one can bring a railing accusation against us as a profession for neglecting the things that pertain to the cure of disease by drugs, we must bear meekly the rebuke of those who claim that non-medicinal agents, such as systematic exercise, fresh air, and the use of water scarcely receive the attention which their virtues demand. Particularly is this the case with water as a means of controlling the severer symptoms of fever. For centuries it was one of the great hygienic measures, and the use of baths in disease is recommended by writers in every age since Hippocrates. You will find, indeed, in the writings of the Father of Medicine an admirable account of the indications and uses of the bath, to some of which I shall refer again.

During the first half of this century hydrotherapy was largely in the hands of the hydropaths, by which term may be distinguished the large class of hermaphrodite practitioners who look upon water as a cure-all; but under the guidance of von Ziemssen, Liebermeister, Winternitz, Brand, and others, the use of compresses, douches, and the various forms of baths has been introduced largely into rational practice. More than thirty years ago Brand, of Stettin, urged the systematic treatment of typhoid fever by cold baths. The method has been successfully carried out on a large scale in Germany and in France, but in England and in this country only spasmodic and not very successful efforts have been made to encourage its use, at least in hospital practice. The remarkable figures published by Brand in 1887 made me determine to adopt it at the earliest possible date, but when the wards were first opened the arrangements were not adapted, and our staff of nurses not large enough, to carry out the method thoroughly, so that for the first year we followed the ordinary symptomatic and expectant plan of treatment. But I am not myself personally responsible for its introduction. During my absence in Europe, in 1890, my former first assistant, Dr. Lafleur, now of Montreal, after a visit to the wards of Dr. J. C. Wilson at the German Hospital in Philadelphia, began the practice, and the hospital is under a lasting debt to him for the accuracy and care with which at the outset, and for more than a year subsequently, he supervised the details of the treatment.

Most of you have seen the application of the method in the wards, but I shall emphasize certain points in the procedure by having one of the patients bathed before you, so that you may see the minutiæ.

The ward orders are as follows: The temperature of typhoid-fever patients is to be taken every two hours; when above 102.5°, a bath at 70° is to be given every third hour. The patient before you has reached the sixteenth day of the disease. He has been in hospital nine days, and has had thirty-six baths. The tub is wheeled to the side of the bed—a practice much preferable to that followed in some of the foreign hospitals of carrying the patient to the bath, or indeed allowing him, if he is able, to walk to it.

The technique of the procedure is as follows: The tub, as you see, is of light *papier-maché* material, and even when filled with water, as at present, is readily portable on wheels. The temperature of the water is 68°. Here in the amphitheater we shall reverse the usual procedure and have the patient wheeled to the side of the bath. The preparation is extremely simple. The heavier bedclothes are removed and a light sheet is thrown over the patient from the neck down. Under this his night-shirt is removed, and, if necessary, a light napkin is applied over the genitals. The patient is given a small quantity of whiskey. Two orderlies will now lift him into the bath, still covered with the sheet. This patient happens to be a large, well-nourished man, and he fits very comfortably into the bathtub, having, as you notice, an air-cushion supporting the head and

[1] A Clinical Lecture delivered to the Graduate Class of the Johns Hopkins Hospital, Baltimore, November 9, 1892.

neck. You will see in the ante-room one or two other forms of bathtubs, one of which has a sloping platform for the support of the back. In more delicate, particularly in thin, emaciated, patients the greatest care must be taken to support the nates and make the posture in the bath as comfortable as possible. A cloth wrung out of ice-water is placed upon the patient's head, and with a small sponge the head and face are kept bathed with the same water. You see here an unusually docile patient, who takes the baths without much protest, but, as you have just heard him say, he would prefer them warm. Systematic friction is now applied to the skin either with the hand or by means of a cloth or India-rubber rubber, which for convenience may be attached to a stick. The friction is rightly regarded as a very important element in the treatment, though, as you hear from this patient, he does not at all like it, and prefers to be left alone. Curiously enough, Hippocrates laid stress upon this very point when he said: "But the person who takes the bath should be orderly and reserved in his manner, should do nothing for himself, but others should pour the water upon him and rub him." The abdomen should not be rubbed. While the patient is in the bath, the bed is prepared for his reception with a rubber sheet, a blanket, and over these an old linen sheet. (After remaining in the bath for twenty minutes the patient was lifted out.)

I am glad that you have witnessed the little *contre-temps* in lifting this patient out of his bath. You see that he is a strongly built, heavy man, and the orderlies were only just able to lift him from the bath to the bed, and you saw that in doing so there was some little difficulty, owing to the catching of one arm on the side of the bath. This, however, does not very often happen, but now and then patients complain of scratches in the process of lifting in and out of the bath; and though done, as you see, with the greatest possible care, these little accidents are liable to happen. The man is now well wrapped up in the sheet, which is tucked in between the arms and legs, and brought well around the neck. Over this the blanket is placed. In cases in which the temperature is very high the patient may remain in the sheet for from five to ten minutes, but under other circumstances he may be carefully dried at once. You see that this man retains a good color in his face; the extremities are cold but not livid; and he is now beginning to shiver. Very often this shivering is distressing while in the bath, and one of the most unpleasant features of the system. If the patient is very cold and the shivering is extreme, hot bottles may be applied to the feet and at the sides. You see by this two-hourly temperature-chart the influence of the baths; and half an hour after this the temperature will be taken again, and the record made. If at the end of three hours the temperature is again above 102.5°, he will have another bath such as you have just seen. Now, before the patient is wheeled out, he will be given two ounces of hot milk with a little whiskey.

Practically what you have seen in this case is the routine of our treatment. The patients receive no medicine other than the alcohol, and that we do not give as a matter of course, but as a rule only, before and after the bath. In other cases, when the heart becomes feeble, we give strychnine, and in some cases digitalis and ether. The effects of the baths are: first, to reduce the fever, principally by favoring heat-dissipation and by the direct action of the cold water upon the blood that circulates in the superficial vessels; secondly, as a general tonic to the nervous and circulatory systems. Perhaps the most striking effect is seen in the lessening of the nervous irritability, the favoring of sleep, and the clearing of the mind. In patients treated early by this method we rarely see the dry tongue, muttering delirium, the subsultus, and the other grave nervous phenomena which are of such serious import in typhoid fever. The baths, too, appear to improve the general nutrition, and the patients take their food better, digest better, and, as has been said, the vital processes all seem more active. Do not suppose, however, that you can, as Brand enthusiastically says, keep the patient in an almost afebrile condition. An inspection of any series of carefully-taken charts will convince you that this is an impossibility; the temperature rises again in a variable space of time, and in some instances the influence of the bath upon the rectal temperature is extremely slight.

An important question is, Shall we bathe all cases indifferently, whether the temperature reaches 102.5° or not, and whether grave or mild? When the temperature does not reach the point indicated, if the patient's condition is good and there are no nervous symptoms, the baths are not ordered. This has been our practice during the past two years, and I do not know that we have in any case had cause to regret it. Of course, we do not here often see patients before the seventh day, but occasionally, as in the man in bed 3 in ward F, we do find cases in which the temperature is very low on admission, scarcely 100° or 101°, while subsequently the fever becomes very pronounced. Now, in the very case in question, the man has subsequently had a sharp attack of typhoid fever, but we did not bathe him when his temperature was low for the very good reason that we did not think he had the disease. On the other hand, in doubtful cases in which the fever is 103°, we have no hesitation in ordering baths, and have frequently bathed patients who subsequently proved to have pneumonia or malaria.

The contra-indications are as follows: Hemorrhage from the bowels, not because the cold baths tend to increase the hemorrhage, but because they interfere with the essential element in treatment, namely, rest. You have seen within the past week in the patients in beds 20 and 24 that the baths were omitted on account of hemorrhage. In the extreme debility of the last stages, in protracted cases with running pulse, it is advisable to omit the baths, though we do so with reluctance; but in many cases it has seemed wise, particularly in cases admitted in the third week, or admitted in relapse. Often in a day or two the condition is improved sufficiently to justify the use of the method. Neither pneumonia nor bronchitis is regarded as a special contra-indication, and pleurisy, only when the pain is severe Of course, the baths must be omitted when there are signs of perforation.

We use the bath-treatment and advocate it because by it the mortality in typhoid fever has been reduced so remarkably in hospital work that its employment seems imperative for the saving of lives. You can for yourselves read and compare the statistics in the different

hospitals which are given in two special works on this method now available for practitioners in this country—one, *The Hydriatic Treatment in Typhoid Fever*, by Dr. Sihler, of Cleveland, formerly a Fellow of the Johns Hopkins University; the other on the *Use of Water in Modern Medicine*, by Dr. Simon Baruch, of New York. These little books should be widely read by the profession. They are timely contributions to a subject that has not yet reached the daily lives of the doctors in this country. Practically, the mortality under the cold-bath treatment in hospitals has been reduced from 15 and 20 or 25 per cent., to an average of 6 or 7 per cent., taking all cases, or even very much lower if the cases are seen early. Indeed, Brand has figures that show an absence of mortality in some 1200 cases in which the treatment began before the fifth day. But in hospital practice we can never expect to see our patients before the end of the first week. At the German Hospital in Philadelphia, where the method has been followed most accurately by Dr. J. C. Wilson and his colleagues, there were ninety-four consecutive cases treated without a death; but I understand from Dr. Wilson that this remarkable good fortune has not continued, though the mortality has been kept at a very low rate. Our own more limited experience is also strikingly in favor of the method, and a report is in course of publication dealing with the first hundred cases so treated. In the first year of the opening of the hospital there were thirty-two cases treated on the symptomatic and expectant plan, of which eight died, a mortality of 25 per cent., a rate unusually high even for a general hospital. The cases, however, were of unusual severity; one had acute hemorrhagic nephritis, with profuse hematuria; one case, admitted at the beginning of the third week, had extensive double pneumonia. Two cases died of perforation, while another case died of profuse hemorrhage from the bowels. On the other hand, in the first hundred cases treated by the cold baths, the mortality has been only 7 per cent., a reduction so striking and remarkable that it must be attributed to the good results of the bath. Even this rate of mortality, which is about the average for hospitals in which the rigid Brand system is carried out, would be considered by the proposer of the method far too high. In the report referred to I have given full details of the fatal cases, and it will be noticed that one of the eight, an old man of seventy, was admitted late in the disease with extensive lobar pneumonia, and as the disease was not recognized as typhoid he was not bathed. Two cases were admitted in relapse.

You will be pleased to learn that in the cases treated this year we are still gratified with the results of the method. We are at about the seventieth case in our second series of a hundred cases, and only six of these have died.

Lastly, of special interest to you as practitioners, comes the question, How far is this method available in private practice? I have been rapped over the knuckles, so to speak, for saying that in private practice it was scarcely feasible, but I suppose it is more correct to say that in this, as in other matters, where there is a will there is a way, and if the practitioner insists and has the courage of his convictions, the method can in many cases be carried out at home. It is very interesting at this point to know Dr. Sihler's experience in private practice, and I would recommend the careful perusal, by practitioners, of Appendix A of his little manual. Really the chief obstacle to-day is that of which Hippocrates complains, when, in speaking of the bath, he says: "Sometimes it must be less used than it would be otherwise, from the want of accommodation; for in few families are all the conveniences prepared, and persons who can manage the baths as they ought to." Portable tubs, however, are now available, and with a good nurse, intelligently assisted by one or two members of the patient's family, the practice can be successfully carried out. There is now, moreover, a much stronger feeling in the profession in favor of hydrotherapy, and the practitioner can at least get the moral support of his colleagues. Still there are difficulties, which can, however, be overcome with care, patience, and a little tact. My preceptor, Dr. R. P. Howard, in Montreal, used to tell a story which rather set the younger ones among us against the Brand method. Early in the "sixties," shortly after the publication of Brand's paper, Dr. Howard, in his lectures on typhoid fever, had given the full details, and had spoken of the remarkable results obtained by Brand. One of his pupils, a year or so later, practising in a small town in Western Canada, had faith enough in his teacher and in Brand, to use the cold bath in a very severe case of typhoid fever, which occurred in one of the prominent families of the town. The poor patient promptly died after the bath, and the young physician felt so chagrined, and the feeling against him was so strong, that he left the town. Such an accident, however, is a very remote contingency, and one that need scarcely be taken into account in discussing the advantages and disadvantages of the cold-bath treatment in typhoid fever.

Do not, however, underestimate the troubles that you will encounter in introducing this method into family practice. I have here a letter from one of my old University Hospital house-physicians, an extremely careful and able practitioner, who has been using the cold bath very faithfully, and in speaking of one case he says: "The prayers, entreaties, supplications, and last but not least effective, the lusty yells of this girl at each bath were such as not to materially increase the repose of the neighborhood or strengthen to any great extent the *morale* of the family."

We have been congratulating ourselves during the past two or three months that our numerous cases have been doing so satisfactorily, but yesterday one of the inevitable accidents occurred which, in general hospitals at any rate, must continue, in spite of Brand's statements, to occur occasionally and maintain some mortality, at any rate, in typhoid fever. The patient, admitted about the seventh day of his illness, was a strong, well-built, healthy man, aged thirty-seven. He was bathed from the time of his entry, and had had about forty baths. The day before yesterday the pulse was feeble and rapid after the bath, and it was thought advisable to order the baths to be discontinued. There was a little tenderness in the abdomen, but nothing very striking. Yesterday, as some of you saw, the signs of perforation were well marked, and of this he died. I show you here the small intestine, and you will see a somewhat unusual and remarkable picture. There is a small slough near the ileo-cecal valve, and there are two or three small ulcers in the first half above the valve.

There are also one or two swollen solitary follicles, but there are also several patches which show simply the shaven-beard appearance, and the lymph-elements are not themselves specially swollen. At a distance of 30 cm. from the valve there is a small perforation, resulting from the extension of a small, deep slough through both muscular coats. Higher up there are one or two small ulcers, not larger than peas, and above this there are Peyer's patches uninvolved, with scarcely any infiltration. The spleen is very much enlarged and soft. Here was a patient, without extremely high temperature, bathed from about the seventh day, with every favorable indication, and as the autopsy showed, extremely slight ulceration in the ileum, and yet, owing no doubt to local conditions in the limited area involved, the necrosis had extended deeply, and passing through both muscular coats, the inevitable perforation occurred, with fatal peritonitis.

CLINICAL MEMORANDA.

THREE CASES OF AMEBIC DYSENTERY.

BY H. F. HARRIS, M.D.,
OF ATLANTA, GA.

OUT of a series of seven cases of chronic dysentery, recently examined, amebæ were found in the stools of the three whose histories I give below.

CASE I.—G. A. M., aged thirty-six years, white, a civil engineer, a native of Connecticut, was first seen by me on October 2, 1891. He had never been sick up to three years ago, at which time he moved from the State of New York to Chattanooga, Tenn.; shortly after his arrival at the latter place he was taken sick with an acute attack of dysentery, but fully recovered from the disease in about ten days. After leaving Chattanooga he lived in various parts of middle and southern Alabama, until coming to this place eight months ago. At the time of the beginning of his illness he had, and he has since, during working hours, used water from a well.

The present illness began last June with an acute attack of dysentery; the disease has continued since, with occasional remissions and exacerbations, but at no time has it been so severe as at present. Though really unfit for labor of any kind, he had continued at his work up to the day before I was called; at that time his condition was as follows: Appetite fairly good; prostration very great; bowels loose, and from twenty to forty stools passed in twenty-four hours. Suffered with fever, thirst, constant backache, and a deep tearing pain across the upper portion of the abdomen. Physical examination showed that he had evidently lost much flesh; his cheeks were shrunken, and the limbs and trunk were extremely emaciated. The skin was pale and slightly jaundiced, the tongue clean and moist, but slightly reddened at the tip. The temperature was 100° F., pulse 92, and respirations 20. The heart, lungs, liver, and spleen were found normal. The urine was scanty, and contained neither albumin nor sugar. The abdomen was tender, but not at all distended. The stools were watery, usually of a dark-brown color, and very offensive. On microscopic examination there were found pus-cells, red blood-corpuscles, large, round, granular epithelioid cells, multitudes of bacteria, and numerous actively-moving amebæ. Microscopic examination of the sputa was negative.

Rest in bed for a month was ordered, and a diet of egg-albumen and milk, stimulants being added when deemed necessary. A great general improvement followed, as well as a marked amelioration of the dysenteric symptoms. During the last few days of his rest the number of stools was not greater than three or four in twenty-four hours; but, on resuming work, the number quickly increased to the present average of from ten to fifteen in the same length of time.

CASE II.—Mrs. D., aged twenty-four years, white, married, a native of Tennessee, was first seen by me on October 25, 1891. Three years previously she had moved from her home in Tennessee to this city, where she has since resided. The house in which she has continuously lived since coming here is situated in a not unhealthy suburb, the only source of water-supply being, however, a surface well. The patient had been in perfect health up to ten weeks before, at which time an acute attack of dysentery set in. The movements at first were frequent, painful, and contained blood and mucus; subsequently the pain grew less severe, and the number of stools decreased, but the disease has continued, sometimes being worse and then better, to the present time. When I first called to see her she, being very weak, was confined to bed. Her appetite was poor, and she suffered with fever and frequent prostrating sweats; her stomach was irritable, the small quantity of food taken being often vomited. The bowels were evacuated, on an average, once an hour. She had lost much flesh. Physical examination showed that she was thin, the skin yellow, the tongue pale, flabby, and slightly coated; the temperature was 102.1° F., pulse 98, and respirations 26. The heart's action was weak; over the mitral region there was a soft, blowing, systolic murmur. The lungs and liver were normal. The urine contained neither albumin nor sugar. The abdomen was tympanitic, but not greatly swollen; along the course of the colon it was quite tender. The stools were of a dark-brown color, watery, and exceedingly offensive. On microscopic examination they were found to contain pus-cells, red blood-corpuscles, large, round epithelioid cells, many cercomonas, and numerous, very active amebæ; multitudes of bacteria were also always found. Amebæ were never found in the sputa.

During the week that followed my first visit the patient slowly grew worse. The temperature, though remaining constantly above 100° F., was very irregular; it usually reached its lowest point in the early morning hours. Each day the pulse became weaker and more rapid. The exhausting diarrhea continued practically unabated, and by far the greater portion of food taken was at once vomited. At my last visit the patient was only partially conscious, and the nervous system had for several days previously given evidence that it had suffered greatly in the general breakdown. The patient's family having become dissatisfied, other professional assistance was called. I learned later that the woman died on November third.

CASE III.—Katie B., aged thirty-four years, a mulatto, consulted me at my office on December 19, 1891. Although a married woman, she has earned her livelihood for a number of years, as a washwoman. She

was born and reared in middle Alabama, but for the last fourteen years has resided in Atlanta. Her home here is in a low, damp, and by no means cleanly situation, and is in close proximity to what has been, until very recently, an open sewer. The drinking-water is obtained from a shallow well within a few feet of the house. In the month of July, 1890, she was taken sick with an acute attack of dysentery; in a few days the more severe symptoms subsided, but the stools continued loose and somewhat more frequent than in health. Although the number of stools was markedly increased by physical exertion, she continued her usual occupation for six months after coming under my observation. Her appetite has remained fairly good; with the exception of a few restrictions as regards certain articles of food, her usual diet has not been interfered with—her circumstances being such that a milk or egg-albumen regimen was impracticable. She has pains in the back and lower part of the abdomen, occasional headaches, and complains of great weakness. The number of stools passed in twenty-four hours varies widely—sometimes there being not more than two, and, again, twenty or twenty-five. At night the feet are usually somewhat swollen.

When first seen the patient was a large, well-developed, and very healthy-looking woman, but during my subsequent observations, extending over a period of nine months, she steadily lost flesh, along with the gradual impairment of her general health. The tongue was moist and flabby; the temperature varying between 99° and 100° F., the pulse usually about 80, the respiration normal. The heart, lungs, liver, and spleen presented no abnormalities. The urine was of the usual color, acid, sp. gr. 1020; it contained no albumin, but at times a trace of sugar. The abdominal wall was thick, and well rounded; pressure over the region of the left half of the transverse and descending colon elicited tenderness. The stools were offensive, yellow, semi-solid, and contained but little mucus. On microscopic examination they were found to contain much undigested food, pus, red blood-corpuscles, large epithelioid cells, and a few sluggish amebæ. Examination of the sputum was negative.

An analysis of the symptoms in the foregoing cases shows—notwithstanding the fact that we have in one an example of the severest, and in another the mildest form of the disease—a marked similarity in all, and at the same time they do not in any essential particular differ from cases of the kind reported from various parts of the world. The percentage of uncomplicated cases is certainly here, as yet, much greater than has been observed in other parts of this country, but, from such a limited number of unfinished cases, any general conclusions would, of course, be premature. It is unfortunate that, in the only case in which the actual conditions could have been definitely ascertained, an autopsy was impossible, but there existed no evidence leading to the conclusion that there was either pulmonary or liver involvement.

The amebæ were from 0.020–0.030 mm. in diameter, and they contained many vacuoles, much granular matter, and sometimes microörganisms; it was never possible to definitely make out either nuclei or contractile vesicles. The movements of the amebæ were never rapid—often extremely slow; though they usually became inactive in from twelve to eighteen hours after having been passed, they were upon several occasions observed alive after twenty-four hours' exposure to the temperature of the room, which, during the night, probably went down to 35° or 40° F. Their number and activity would seem to correspond with the severity of the disease. No further description of the amebæ is deemed here necessary, as they would in all other particulars answer to the several excellent descriptions which have at various times appeared in THE MEDICAL NEWS.

The treatment pursued in the three cases was essentially the same. Rest, so far as it was practicable, was enjoined. The only foods allowed were milk and egg-albumen. When thought necessary, alcoholic stimulants were freely given. Instead of ordinary well or hydrant water, the waters of the Rockbridge, Virginia, alum springs were substituted, on account of their reputation in the treatment of the chronic dysenteries of this climate; no improvement having followed after a thorough trial in either case, their use was abandoned. Opium, silver nitrate, copper sulphate, bismuth subnitrate, salol, sulphuric acid, and tannic acid—the latter in solution by enemata as well as by the mouth—were all tried, but with no marked effect. Pepsin was given with the hope that it might favorably influence the disordered digestion, but was followed by no appreciable benefit. Although it is true that while under the influence of opium the number of actions decreased, and also that both the tannic and sulphuric acids, for a time, unquestionably caused a decrease in the number of stools passed, the good effects never persisted after their discontinuance.

On account of its alleged amebacidal action an injection of a quart of a 1 to 2500 solution of quinine sulphate in ice-water was given in Case I for two weeks, and in Case II for three days, once daily, with no benefit, and without affecting the number or activity of the amebæ found in the stools. After having failed to obtain any positive result from quinine sulphate injections, I began a series of experiments for the purpose of ascertaining to what degree the amebæ, as found here, were susceptible to the toxic action of the salts of quinine, and to that of other poisons which could be safely used in rectal injections. Up to the present time my experiments have not been sufficiently numerous to justify any definite conclusions, but enough has been done to cause me to doubt the possibility of killing the amebæ with either ice-water or even saturated aqueous solutions of quinine sulphate, in any reasonable length of time. Of the various substances experimented with, none has been found which was at the same time so toxic to the amebæ and so innoxious as quinine bisulphate, which in a 1 to 300 aqueous solution always, within ten minutes, caused the death of the amebæ. Injections of one quart of water holding in solution a dram of quinine bisulphate were given in Case I for two, and in Case II for three successive days; each injection was retained thirty minutes. They were abandoned in Case I for the reason that the pain which they produced was intolerable, and in Case II on account of the hopeless nature of the case. Following the injections the temperature would fall from 1° to 2° F., and the phenomena of cinchonism always developed. No decided improvement followed in either case, but the number of amebæ was undoubtedly diminished.

A LARGE AORTIC ANEURISM.

BY F. J. SHADD, M.D.,
HOUSE-SURGEON TO THE FREEDMEN'S HOSPITAL, AND PROFESSOR OF MATERIA MEDICA AND THERAPEUTICS AT HOWARD UNIVERSITY MEDICAL COLLEGE, WASHINGTON, D. C.

THE case that I herewith report was under my care several times during the past four years. The aneurism is one of the largest, if not the largest, on record in the Medical Museum, at Washington.

The pathology of thoracic aneurism has received most careful consideration. The subject is of special importance to the clinician, who often finds it difficult to locate the exact portion of the thoracic aorta from which the aneurism springs. As a rule, aneurisms of the aorta are confined to the ascending portion and to the arch.

Sometimes the carotid, the innominate, and the subclavian arteries may be severally involved. It is not my purpose to write an exhaustive article upon the etiology, pathology, and treatment of aneurism of the aorta, but it is well to remember that aneurisms are divided into (1) true aneurisms, in which all three coats of the vessel are involved; (2) false aneurisms, in which only the inner coats are destroyed; (3) diffuse aneurisms, in which the three coats give way and the walls of the blood-sac are made up of the surrounding structures. The causes of aneurism are various, viz., chronic inflammation of the arterial walls, fatty degeneration, atrophy, and violent exertion. Among the diseases that lead to its development may be mentioned rheumatism and syphilis.

The disease is one of middle age, and males are more often affected than females, because of the exposure to which they are subjected, and the violent exertion in which they engage. The diagnosis is often very obscure, by reason of the lack of uniformity of the symptoms and also from the anatomy of the parts. Sometimes there is severe pain in the cardiac region, swelling and throbbing of the vessels, fulness and weight in the chest, in addition to marked dyspnea. The position and growth of the aneurismal sac often modify the chest-symptoms.

In the case to which I desire to call attention, a correct diagnosis was made when the patient first came under my care some four years ago, when the aneurismal sac was not prominent and many of the symptoms and physical signs were negative.

The man was first admitted to the Freedmen's Hospital October 24, 1888, and was discharged January 15, 1889. Several times during the past four years he has received treatment for the severe pain in the chest and shortness of breath. He was last admitted to the hospital on August 15, 1892. He died October 1, 1892. The tumor had grown much larger and his condition was very critical. I learned that the man left Algiers in 1861, enlisted as a sailor and had followed the water for more than thirty years. His weight was 225 pounds, height 5 feet 10 inches; he had been married fourteen years, and had five living children. He stated that his age was seventy-eight, and that he was born in Algiers; he also stated that his health was always good until after lifting heavy loads on shipboard. One day he felt a sharp pain over the heart, after which he had asthmatic attacks. The tumor that presented measured eight inches vertically, nine inches transversely, and eleven inches obliquely. When last admitted the man was suffering from marked and persistent asthmatic attacks which responded to the usual treatment, viz., Hoffman's anodyne and morphine. His general health was good and he was remarkably well nourished for a person who had been seriously ill for four years. He was large and muscular, a man of great strength, a fact well demonstrated when we tried to control him during one of the severe paroxysmal attacks that periodically recurred. His physical condition was so good that even the intense suffering during the many months of his former illness had made but slight impression on his general health. His mind seemed slightly affected, and yet by reason of his foreign accent and some other peculiarities common to people of his country, I was often at a loss to know how much of his private history to believe. Several times he impressed me that there must be some cerebral irritation not due to reflex influence of the heart-disease. When questioned about his parents, he informed me that his father had died ten years previously; that he was the twenty-fifth child; that his mother was one hundred and fifty years old, and was now living. While at the hospital, a year or so ago, he would become very violent, would scream and run around the ward; and often he would boast of his cannibalistic feats in years past, when American citizens appeased his appetite in the wilds of his native home.

During his stay at the hospital the last time he was under my especial care. In the paroxysms from which he suffered his pain was intense. The last month of his life was made as comfortable as possible by the judicious use of Hoffman's anodyne and potassium bromide during the day and morphine at night.

Even under the influence of these drugs he was unable to rest in bed, and spent most of his time sitting in a chair and leaning over a pillow on the back of another chair, thus relieving the lungs of the pressure of the aneurism.

Dyspnea, however, became more pronounced, and progressed in intensity until death ensued.

The post-mortem examination was made by Prof. D. S. Lamb, of the Army Medical Museum. I am indebted to Mr. J. A. Robinson, Jr., for the report of the examination.

An incision in the middle line below the ensiform appendix disclosed an edematous condition of the tissue, as well as certain hard abnormal tissues extending from the site of the aneurismal sac to near the region of the axillary space.

The lungs were generally adherent.

Several ribs were found to be eroded in consequence of the long-continued pressure by the sac.

The liver was bound by old adhesions. The organ was small; its vessels were congested and their walls considerably thickened.

The left lung was found to be a little edematous. The upper portion was divided into three small lobes. Some of the bronchi were filled with yellowish pus.

The heart was enlarged. There was considerable thickening of the pericardium from an old pericarditis.

The aorta was greatly dilated and contained a large quantity of soft blood-clot.

The aneurismal pouch began just above the aortic

valve and involved the ascending and transverse portions of the arch of the aorta. The sac contained a mass of laminated or striated blood-clot.

The capsule of the spleen was thickened and adherent to the diaphragm. The organ appeared to be enlarged and was very dark.

The left kidney had a small cyst in its cortical substance, and on being opened, another small cyst was found within it.

The right kidney was normal.

The carotid arteries and innominate veins were patulous and not interfered with.

The sac detached and lifted out was a foot in diameter.

A large part of the sternum and several ribs on either side were entirely absorbed.

The growth of the pouch being forward, there was no pressure on the spine, which appeared normal.

The calvarium and the cerebrum presented no abnormality.

The cerebellum was anemic; its appearance was suggestive of some interference with its nutrition during life. This view was strengthened by a decided softening and breaking-down of the inferior portion of both lobes of the cerebellum. This fact furnished an explanation of the impairment of coördination that existed some weeks before death. No cause for the softening was found; this was supposed to have been due to some interference with the circulation through the branches of the basilar and vertebral arteries.

The immediate cause of death was suffocation from the pressure of an aneurism of the arch of the aorta upon the trachea.

LARYNGISMUS STRIDULUS, OR SPASM OF THE GLOTTIS, PROVING FATAL IN LESS THAN THREE HOURS.

BY F. M. GREENE, M.D.,
OF GREENE DALE, KY.

ON the night of November 5 I was called to see Lewis K., a boy nine years of age. At 11 o'clock his mother was awakened by his struggles for breath, and he was observed clutching at his throat. She attempted to administer an emetic, and in a few moments spasms came on and the patient was completely cyanosed about the face. Coma supervened, and it was found impossible to give the emetic. At half-past 1 o'clock I arrived and found that the patient had expired half an hour previously. The history of this case is as follows: From early infancy the boy had been subject to attacks of laryngismus stridulus, or "false croup." When three years of age he had an attack of membranous croup, from which he recovered slowly and with great difficulty. None of these attacks was regarded as diphtheritic, nor was any membranous deposit discovered in the throat or fauces.

After six years of age these attacks became less frequent, and at nine years he was supposed to have outgrown a tendency to the disease. During the week preceding the attack he had attended school, and on Saturday appeared as well as usual, playing about home with other children in the family. At 8 o'clock he took supper with the family, and after retiring to the family room was required by his father to show what progress he had made in his studies. After reading a short time he appeared drowsy, when his mother assisted him to bed. No symptoms of fever or hoarseness were observed at this time, about 9 o'clock.

There were three children in this family—the eldest a daughter of seventeen, now healthy, but who had been much subject to croup during infancy; the second, a daughter of three years, perished from an attack of membranous croup. The mother, a robust healthy lady, was not subject to laryngeal affections, nor was there any history of the disease during infancy. The father, on the contrary, has chronic laryngitis and suffers greatly during the winter months. The laryngeal mirror shows chronic congestion of the ary-epiglottic folds, with thickening of the vocal bands. So far as could be ascertained, there is no history of pulmonary tuberculosis or of syphilis in his family.

In this case there was no rigor mortis when I arrived. The appearance of the child indicated that he had struggled violently. A post-mortem examination was refused, and I remained in some doubt as to the diagnosis. It was not probable that any foreign substance had gotten into the larynx and thus suddenly produced suffocation, nor could it be clearly pronounced edema, which is believed to be seldom, if ever, idiopathic. Edema of the larynx usually follows some disease or injury of the larynx or neighboring structures. The intelligence and watchfulness of the mother, who at all times was prepared with the ordinary remedies to treat simple laryngitis, would disprove the idea that the attack was insidious or was preceded by any marked inflammatory symptoms.

In Pepper's *System of Medicine*, under the prognosis of laryngismus stridulus, it is said that: "The large majority of cases of spasm of the larynx recover. Statistics show that there are deaths from this disease, but in proportion to the number attacked the mortality is small, how small we do not know." I have notes of a similar case that occurred a few years ago, and the patient lived less than three hours from the time of the actual attack. Inflammatory symptoms had preceded the attack for six hours, and there was complete cyanosis when I arrived. An attempt was made to produce emesis by tickling the fauces, when the patient suddenly expired from asphyxia. It is in these desperate but fortunately rare cases that the physician feels that "his arm is shortened" and his efforts futile.

The pressing indication in these cases is to relax spasm, and this may be accomplished, first and foremost, by heat, emetics, anesthetics and antispasmodics. Ordinarily we have time sufficient for some of these remedies to act. In cases of great dyspnea with cyanosis, anesthesia must be of doubtful expediency. It seems that tracheotomy would offer the only hope in such cases, but the operation is usually not resorted to until other remedies have failed or the emergency is great and immediate.

REDUCTION OF GOITER BY THE FARADIC CURRENT.

BY W. H. F. MILLER, M.D.,
OF CLIFTON FORGE, VA.

HITHERTO the faradic current has not been much noted as a means of arresting pathologic processes, but it may be possible that it shall serve this purpose,

and investigation may prove that in certain cases it will be more serviceable than the constant current. There are several objections to its use, including pain and the effect on nervous patients caused by the noise of the interrupter; but in the case I now report I must think that the desired effect was produced more quickly than would have been possible by fifteen or twenty cells of galvanic electricity.

Miss R. A., seventeen years of age, consulted me for trouble with her throat, complaining of continual pain and a choking sensation. Laryngoscopic examination gave negative results, as there was no apparent laryngeal or pharyngeal affection. She stated that she had been under the care of two physicians for about a year, and had had gargles, sprays, and tonics prescribed without any appreciable benefit. She assured me that she was getting worse all of the time. In making an examination of the throat I perceived a distinct tumor in the thyroid region, and on questioning her she stated that it had always been there since her throat troubled her, and she attributed it to the throat-affection. Both lobes of the thyroid glands were enlarged to the size of a small hen's egg.

During three months I prescribed an ointment of aristol and lanolin, with arsenic and potassium iodide internally, with no benefit. Then, having no galvanic battery, I determined to try the effect of the faradic current. I stopped all medicine and applied the positive pole over the isthmus and the negative pole to the right side of the tumor, and turned on the current for twenty minutes. The result at first was not gratifying, as the right side was appreciably larger after the application than it had been before. I told her, with some misgivings, to return in two days. On her return I found the right side considerably decreased in size, but the left lobe, if anything, larger. I applied the current to the left side, and on the next visit there was a visible decrease in the size of the tumor. After that I applied the current through the whole gland, applying the positive pole to the outside of the left lobe and the negative to the corresponding side of the right. After four applications of twenty minutes each, using as strong a current as could comfortably be borne, the whole tumor had disappeared, and there has been no return up to this time (six weeks).

There was no cauterant action upon the skin, but at first a deep red line extended across the neck from left to right, quickly spreading over the adjacent surface, disappearing in about half an hour after cessation of the treatment. Only six sittings were needed to reduce the whole tumor, which had not yielded to the usual internal remedies. It may be that investigation of the faradic current for such purposes may prove of value. I used a two-celled Manhattan battery.

NEW DEVICE.

"THE ANTISEPTIC DROPPER."

BY GEORGE M. GOULD, A.M., M.D.,
OPHTHALMOLOGIST TO THE PHILADELPHIA HOSPITAL.

ALL ophthalmic surgeons, as well as most physicians, daily experience the constant annoyance and the impossibility of keeping droppers or medicine pipettes clean, and of having each one properly attached or only used in the same bottle. The solutions kept in the bottles are soon spoiled by dust, penicillium, etc., carried into the bottle by the dropper. As commonly used, the dropper is not cleansed and rendered aseptic each time prior to inserting it in the solution, but is in fact washed out with, and again into the solution, every time it is used. Many devices have been made in the attempt to avoid all this, and to keep each dropper with its appropriate bottle. It need not be said that all have proved failures, and the vexation, the expense, and the slovenliness, the fouling and the septicizing of solutions, is a thorough "weariness to the flesh."

I have hit upon a method that I am sure "supplies the long-felt want." This, in brief, is to combine the dropper and the glass-cork in one piece of glass. The long fine point of the dropper, straight or curved, and of any length desired, or according to the bottle-height, is made the same as the best style of the droppers in common use. The bulbous or tubular enlargement of the dropper is made of a sufficient thickness of glass to admit of its being ground so as to fit the neck of the bottle accurately, just as the ordinary glass-stopper does, and is of course used in place of any other stopper. This bulbous enlargement extends far enough above the lips of the bottle to serve as a grasping place for the finger and thumb, and upon this is fitted the rubber bulb exactly as is the common dropper. In this way cork and dropper are united in one handy and serviceable little instrument.

The use of the principle of the "mizpah dropper" may be preferred by some, as by the valve of this instrument the liquid is prevented from entering the rubber bulb. But this is unnecessary if one is careful to keep the point of the pipette downward so that the solution does not come in contact with the upper part or rubber bulb of the dropper. With a little dexterity only the few drops required may be allowed to enter the pipette of the common dropper, and the solution need never reach or come in contact with the rubber.

By changing the shape of the rubber bulb, so that it shall be round or flattened instead of oblong, only the index-finger is used to compress or depress it, and thus expel the solution, whilst the thumb and second finger hold the dropper below. By properly limiting the size of the rubber bulb, it can be made possible to suck up only the single drop, or the few drops desired.

Perhaps the simplest and, after all, the most effectual, plan is to stretch a flat, flexible membrane of rubber across the expanded bulbous open top of the dropper like a drum-head, and by depressing this with the index-finger the few drops required are sucked into the point of the pipette or expelled from it. The device is so easily understood that no illustration seems necessary.

Upon the top of the rubber bulb or of the flat membrane may be written the number of the bottle to which it belongs, the chemical name of the solution, etc., corresponding to the proper bottle.

I have requested Messrs. Whitall, Tatum & Co., of Philadelphia, to manufacture and supply the "antiseptic dropper."

Professor Verneuil has retired from the chair of Surgery in the Paris Medical Faculty which he has for so long and so creditably occupied.

MEDICAL PROGRESS.

Pneumotomy for Pulmonary Abscess —ANDREWS (*Chicago Medical Recorder*, vol. iii, No. 7, p. 537) has reported the case of a man that for fifteen years had presented the signs of consolidation of the right lung with subsequent development of an abscess. There were cough, copious fetid expectoration, anasarca, emaciation, diaphoresis, exhaustion. Neither spirals nor tubercle-bacilli were found in the sputum. To relieve the immediate distress by the least severe operation, simple drainage was attempted. The trocar failed to find pus in the pleural cavity, which was apparently obliterated. A deep puncture was made over the cavity at its most resonant point. At the depth of three or four inches calcareous obstruction was encountered and a large cavity entered. This was cut down upon between the sixth and seventh ribs in the anterior axillary line. The pleura was found completely adherent. The hemorrhage was pretty free until the drainage-tube was introduced, but it soon ceased. Comparatively little pus appeared until the following day. The sputum now lost its purulent character, while a large amount of pus escaped from the wound. Rapid general improvement took place. The patient was able to be about. The appetite improved. Pyrexia and cough largely disappeared. After four months the chest had greatly collapsed. The intercostal spaces became so narrowed that the drainage-tube was compressed and the discharge was interfered with. It was now decided to perform subperiosteal resection of the ribs, and the fourth, fifth, sixth, and seventh ribs were resected in the mid-axillary line. The pleural cavity was found to be entirely obliterated, the pleura being three-eighths of an inch thick. An incision was made, entering the middle lobe of the lung, and opening a large cavity that extended upward and backward, and the walls of which at the point of incision were an inch and a half thick. The cavity apparently had a capacity of two pints, and communicated with a bronchus posteriorly. The hand was introduced into the wound and a large calcareous accumulation encountered. This was in part removed and the wound was dressed open, being packed with gauze, which was removed at the expiration of forty-eight hours. The primary result of the operation was encouraging. Temperature and pulse declined; chills and night-sweats ceased; the appetite improved. The cavity discharged freely at first, the amount gradually growing smaller.

Ulcerative Endocarditis in Conjunction with Gonorrhea.—HIS (*Berliner klin. Wochenschr.*, 1892, No. 40, p. 994) has reported the case of a man, nineteen years old, who had an attack of gonorrhea that yielded in the course of three weeks to injections of mercuric chloride 1 : 4000. At no time was there special difficulty in micturition, pain in the perineum or testicles, palpitation of the heart or shortness of breath. A short time later an attack of syncope occurred. Two nights after this the man had to ride a considerable distance; during the journey he complained of feeling cold; on the following morning he had a distinct chill. The urethral discharge returned. No abnormality of the heart or lungs was detected. Three days later, numerous red spots, that disappeared upon pressure, appeared upon the face, the forearms, the hands, the legs, the feet, and the trunk. Examination again failed to disclose the existence of a heart-lesion. The temperature soon rose to 104°. More red spots appeared over a wider distribution, some being hemorrhagic. The glands below the right angle of the jaw became enlarged. The area of cardiac percussion-dulness was now found to be increased, while a loud, blowing systolic murmur was to be heard over the apex and the pulmonary artery, but with greatest intensity over the aorta. There was no involvement of the joints. The urine was excreted in unduly large amounts, but contained no abnormal constituents. Hearing became impaired; the sensorium became obscured; profuse perspiration occurred; a new crop of ecchymoses appeared; the patient gradually failed, and death took place from heart-failure. At the autopsy, the aortic semilunar leaflets presented the lesions of ulcerative endocarditis. The heart was enlarged. At the apex of the left ventricle was a softening, puriform thrombus. The pubic plexus of veins contained old thrombi. The left kidney and the spleen presented numerous infarcts. There were small hemorrhages in the liver, in the testicles, in the lungs, in the prostate, in the cerebellum, in the medulla oblongata, beneath the skin, and beneath the serous and mucous membranes.

Twin Pregnancy; One Fetus Developed Within, the Other External to the Uterus.—MARTIN (*Omaha Clinic*, vol. 8, p. 259) has reported the case of a woman, forty years old, who had already borne three children and had one premature labor, and who became again pregnant. In about the tenth week of the gravidity the woman presented symptoms suggestive of the existence of septic peritonitis. There was considerable prostration, with exquisite abdominal tenderness. For two weeks there had been considerable metrorrhagia. By rectal and vaginal examination the gravid uterus was found to be retroverted and impacted. By placing the patient in the knee-chest position the displacement was corrected and her condition was soon much improved. On assuming the erect posture the right lower extremity became greatly swollen. Slight hemorrhage from the uterus continued to take place. After the lapse of three months symptoms of labor appeared. In the course of a few days a five-and-a-half-months fetus was expelled. Soon afterward the patient stated that she felt quickening, and by palpation fetal movements could be perceived. Rather more than a month later the patient was seized with excruciating pain in the abdomen and the symptoms of peritonitis, and died. At the post-mortem examination it was found that an extra-uterine gestation-sac had ruptured into the abdominal cavity, setting the product of conception free. The chorion had formed numerous adhesions with the wall of the abdomen and with the viscera. The umbilicus was bifurcated and led to two placentæ, one attached to the folds of peritoneum about the left broad liagament, and weighing about three or four ounces; the other attached to the peritoneum of Douglas's pouch and weighing two or three pounds.

Toxalbumins in the Matters Vomited by Cholera-patients.—Having already demonstrated that the poison introduced by the bites of venomous snakes is eliminated by

the mucous membrane of the stomach, ALT (*Deutsche medicin. Wochenschr.*, 1892, No. 42, p. 954) made a study of the matters vomited by cholera-patients, to determine if these matters contained toxalbumins. For this purpose, vomited matter as free from food as possible was obtained from recent cases of cholera and doubly filtered. The filtrate was treated with thrice its volume of 96 per cent. alcohol. A flocculent sediment was deposited. The supernatant alcohol was decanted and the precipitate filtered. This precipitate was again suspended in 96 per cent. alcohol, filtered, and then dissolved in distilled water. Three volumes of alcohol were now added and the mixture filtered. The alcohol was evaporated and the residue dissolved in distilled water. The subcutaneous injection of small quantities of this solution in rats, guinea-pigs, and dogs was followed by spasm, paresis, depression of temperature, apathy, and death. Degenerative changes were found in the liver, kidneys, and spinal cord. The precipitate obtained responded to tests for toxalbumins. The vomited matters of persons not having cholera failed to yield a corresponding product. The conclusion is arrived at that the precipitate represents the toxic products of the activity of the cholera-bacilli in the intestinal canal, eliminated thus by the gastric mucous membrane. In a doubtful case the physiologic reaction of lower animals to the precipitate obtained from the vomited matters might prove of diagnostic value. Therapeutically, the indication is to employ systematic washing out of the stomach in conjunction with any other plan of treatment that may be instituted.

Recurrent Hemorrhage from the Ciliary Body, resulting in Cataract; Recovery of Vision after Operation.—At a recent meeting of the Philadelphia County Medical Society, ZIEGLER reported the case of a woman, twenty-one years old, in which in the course of the preceding nine years repeated hemorrhages from the ciliary bodies of both eyes had occurred. There was a history of dysentery, with intestinal hemorrhage, immediately preceding the first bleeding in the eye, followed by habitual constipation. Iridectomy had been performed on both sides, but vision remained poor. The right lens had become cataractous, but not calcareous; the left was transparent, except for a small central nebulous opacity in the posterior capsule; the left vitreous was disorganized. As it was thought that the transparency of the right vitreous was preserved, and as light-perception and projection were fairly good, the right lens was first extracted, capsulotomy being performed somewhat later. The result was most satisfactory, almost a normal degree of vision being restored to the right eye.

The Differentiation of the Bacillus Typhi and the Bacillus Coli Commune.—In addition to the various features already proposed for differentiating the bacillus typhi and the bacillus coli commune, LUKSCH (*Centralblatt f. Bakteriologie u. Parasitenkunde*, 1892, No. 13, p. 427) has found that the bacillus typhi has many cilia (from eight to twelve), while the bacillus coli commune has few (one, two, or three), and these are difficult to stain. The method of staining consists in first preparing the cover-glass specimens by heating them for a minute in a fresh, cold, saturated solution of ferric acetate containing 25 per cent. of tannic acid, and to every half-ounce of which from five to ten drops of acetic acid are added, washing in water, and then briefly in 20 per cent. acetic acid; after again being washed in water, the specimens are treated with warm aniline-oil fuchsin or aniline-oil gentian-violet.

A Biologic Reaction from Cholera-bacilli.—BUJWID (*Centralbl. f. Bakteriol. u. Parasitenk.*, xii, 17, p. 595) proposes to utilize diagnostically the influence exerted by iodoform upon cholera-bacilli. He has found that if cholera-bacilli be well mixed in a test-tube with gelatin that is liquefied and then coagulated, and a small open tube containing iodoform be placed above the level of the gelatin, liquefaction does not occur for ten or fifteen days, while it ordinarily begins as early as the second day. The organisms that most closely resemble the cholera-bacillus are acted on similarly, but not to the same degree, liquefaction taking place much earlier. At temperatures at which gelatin liquefies the fluid remains clear when iodoform is employed, but otherwise becomes turbid.

Mercurialism.—PATTERSON (*Dental Cosmos*, xxxiv, 11, p. 904) contends that the inflammation and sponginess of the gums that occur, as well as the blue line that sometimes forms in the course of the therapeutic employment of mercurials, are not dependent upon the immediate action of the drug, but upon neglect in the care of the mouth. The discoloration he believes to be due to the deposition of calcic salts. To avoid unpleasant complications, without the necessity of withdrawing the medication or diminishing the dose of the drug, he recommends the careful removal from the mouth of all irritant matters and the institution of perfect hygienic and antiseptic conditions.

Examination of Fecal Matter.—HERZ (*Centralbl. f. klin. Medicin.*, 1892, No. 43, p. 883) reports the employment of the centrifugal apparatus as an adjunct in the microscopic examination of fecal matter. A portion of the matter to be examined is rubbed up in a mortar with a 5 per cent. solution of carbolic acid, and the mixture is rapidly revolved in the centrifugal apparatus. The matter at once forms into a number of distinct layers. The uppermost layer is composed of bacteria; the next of undigested cellulose; the next of striated muscular fiber; the remainder consists of a number of small layers containing round cells, clostridia, starch, etc. By means of a pipette a portion of any one of the layers can be taken up and examined microscopically.

Puerperal Insanity and Glycosuria.—FLESCH (*Berliner klin. Wochenschr.*, 1892, No. 43, p. 1095) has reported the case of a woman of neurotic predisposition, twenty-five years old, in which, in the ninth month of a first pregnancy, the lower extremities became slightly edematous, and the urine contained a small quantity of albumin. The labor occurred without incident or complication, but at the close of the first week of the puerperium the woman suffered considerable emotional disturbance. Sleeplessness set in and was followed by delusions, and finally by melancholia. The child was taken from the breast; appropriate treatment was instituted; but it was a considerable time before recovery took place.

The woman became pregnant for the second time. A small amount of albumin again appeared in the urine in the last month of the gravidity. Early in the puerperium sleeplessness reappeared; to this, headache, dryness of the throat, increased frequency of micturition, and constipation were added. Examination of the urine disclosed the presence of sugar. The patient was restricted to a rigid anti-diabetic diet, and in the course of a week the glycosuria had disappeared. The subsequent improvement of the patient was entirely satisfactory.

THERAPEUTIC NOTES.

For Frost-bite.—

℞.—Acid. tannic. . . . . ʒxx.
Glycerin. vel
Spt. camphoræ } . . . fʒj.—M.

S.—Apply topically, with friction.

Or,

℞.—Acid. tannic. . . . . gr. xxviij.
Tinct. benzoini . . . . . ♏xxviij.
Spt. vini rectif. . . . . fʒjss.
Collodii . . . . . fʒss.—M.

S.—Apply topically, with a brush.

Or,

℞.—Acid. hydrochlor. pur. . . fʒj.
Camphor. tritæ. . . . ʒjss.
Lanolin.
Vaselin. flav. } . . . āā ʒj.—M.

Ft. unguent.

S.—Apply at night, with friction.

Or,

℞.—Aluminis et potassii sulphat.
Acid. borat. } āā gr. vj.
Tinct. benzoini . . . . . ♏xv.
Aquæ rosæ . . . . . fʒj.—M.

S.—Topical application.

Or,

℞.—Aluminis et potassii sulphat. . ʒj.
Vitelli ovi, no. j.
Glycerin. . . . . fʒss.—M.

Ft. emulsio.

S.—Apply topically, with friction.

SAALFELD, *Therap. Monatsh.*, No. 7, 1892.

Thiosinamin.—At the recent International Dermatological Congress, HEBRA (*Monatsh. f. prakt. Dermatol.*, No. 7, 1892, p. 537) reported having employed allylsulphocarbamide or thiosinamin in the treatment of various cutaneous affections. Thiosinamin ($C_4H_8N_2S$) is a crystalline body, obtained by heating together at 104° two parts of allyl mustard oil, one part of absolute alcohol, and seven parts of spirit of ammonia of a specific gravity of 0.960 and concentrating in a water-bath. The remedy was employed in a 15 per cent. alcoholic solution, of which at first from 3 to 5 minims were injected beneath the skin twice a week; the dose subsequently was gradually increased until from 15 to 30 minims were employed [*Internationale klin. Rundschau*, No. 39, 1892, p. 1583]. The injections were followed by local reaction. Lupus especially was favorably influenced by the remedy. Cicatrices of previous ulceration were softened and rendered yielding and mobile. Chronic glandular enlargements, except when syphilitic, were reduced in size. Noteworthy diuresis was observed in the sequence of the injections, without evidence of injurious influence upon the function of the kidneys. This was especially notable when exudation existed. In one instance night-sweats ceased in the course of treatment. A general condition of well-being developed; the appetite improved; the weight increased. It was incidentally observed that corneal ulceration cleared up. The injections occasioned only inconsiderable and transient discomfort and were followed by no evil results.

Methylene-blue for Diphtheria.—TAUBE (*Deutsche medicin. Wochenschrift*, 1892, No. 38, p. 862) warmly advocates the employment of a 10 per cent. solution of methylene-blue as a topical application in the treatment of diphtheria. He has also found the remedy useful in the treatment of aphthous stomatitis, lacunar tonsillitis, and scarlatinal and other severe anginas. In diphtheria an application may be thoroughly made to the base of the tongue, to the tonsils, and to the pharynx, twice a day for several days, then once a day, and on alternate days, preceded by the administration of a teaspoonful of sodium bicarbonate in a tablespoonful of water. At the same time a grain of potassium chlorate is given every hour, the throat is enveloped in cold cloths, a mild liquid diet is maintained, and stimulants are given if necessary.

Injections of Oil of Cloves for Local Tuberculosis.—KANASZ (*Pester Med.-Chir. Presse*, No. 29) reports having treated a considerable number of cases of articular and glandular tuberculosis by means of injections of oil of cloves in 10 per cent. solution in olive oil sterilized by heat. The injections were made not oftener than once a week, in some cases at intervals of three or four weeks, with the strictest asepsis, from 30 minims to 5 drams of the liquid being employed, in accordance with the extent of the disease-process. The point of puncture is covered with a thin layer of sublimated absorbent cotton, over which a coating of sublimated collodion is applied. A pad of cotton and a bandage complete the dressing. In case the tuberculous glands are suppurating the pus is first evacuated before the injection is made.—*Wiener med. Presse*, 1892, No. 38, p. 1514.

The Therapeutic Employment of Methylene-blue.—As the result of a clinical study of the therapeutic utility of methylene blue, BOURDILLON (*Revue de Médecine*, 1892, No. 9, p. 665) concludes that the agent exercises an elective anti-malarial action that seems to apply as well to chronic as to recent cases, and that ordinarily manifests itself speedily. The remedy seems to be indicated in affections characterized by pain, and in particular in the periodic neuralgias dependent upon malarial infection. It is best administered in pill-form, in doses of from 5 to 7½ grains. The administration ought to be continued for a long time, which cannot be mathematically determined, and must vary for each individual case. No evil results have followed the treatment, even when large doses were administered for prolonged periods.

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THE DISEASES THAT ARE OVERLOOKED.

FROM the fact that, immediately after the appearance of a powerful paper upon any disease, the journals fairly teem with reports of cases of the malady thus brought prominently into notice, it seems reasonable to suppose that, except in the case of formerly undescribed affections, the medical mind needs some form of stimulation lest it unconsciously allow the more unusual forms of disease to sink into partial oblivion. This calling back to life of the interest felt in various conditions has been most powerfully exemplified in recent years by the prominence given in society meetings and in current medical literature to perforation of the vermiform appendix and to extra-uterine pregnancy. That this free discussion of these two subjects has been of much value is proved not only by our advance in knowledge of their etiology, symptomatology, morbid anatomy, and treatment, but also (and not the less to our advantage) by the fact, which probably everyone must confess to be true in his own case, that these diseases are now more readily suggested to us by the relation of any of their significant symptoms than was the case at one time in the past. How long it may be before the present interest in the two affections cited may endure cannot be foreseen, but it is probable that ere a long period has elapsed they will again be often overlooked, until some future authority again drags them forth into prominence.

The good that is accomplished by this prominence given to individual diseases cannot be overvalued, and doubtless many lives have been saved by the almost constant presence in our minds of the frequency of the two affections mentioned. It is unfortunate that such fillips to our memory should be necessary, but it is by just such enthusiastic consideration of different diseases that many of our most marked advances are made. It is readily conceivable that, after the first accounts of various diseases that to us now seem as though always a part of medical knowledge, numerous cases similar to the one the report of which aroused men's minds were looked for and, because looked for, found.

This same temporary obscurity into which various diseases retire after the period of active interest in them has subsided is also noticed in regard to methods of treatment. It is partly for this reason that we every now and then find that what at first sight appear to be novel modes of treatment are in reality merely revivals of some method previously advocated.

After a railroad collision, or after an hotel fire has occurred, there is for a time greater security in travel than for some time before. Just so at present there is but slight danger of anyone overlooking a perityphlitic abscess or an extra-uterine pregnancy, as our attention has been called to our previous comparative indifference to their importance and frequency.

It is not, therefore, of these two diseases that we need to think especially, as they spring into our minds at once upon our hearing of any suspicious symptoms present in a case before us. It is our old friends, familiarity with whom has bred contempt, that we must fear most. How many an aortic aneurism has been diagnosticated muscular rheumatism, how many cases of incipient caries of the spine have been looked upon as due to lumbago, until the time for complete cure has slipped by! We are constantly reminded of some diseases, while others not so frequently seen are likely to be too little in our minds in seeking for an explanation of the ailments of our patients.

It is not alone, however, our memory that is to be blamed for errors in diagnosis. Lack of due thoroughness in our examination of patients is undoubtedly more frequently responsible for our errors than either absolute ignorance of or failure to bear

in mind an individual disease. The diagnosis of muscular rheumatism is so easily made, its frequency is so great, its name so satisfactory to our patients that we are too often satisfied with ourselves in naming it as the cause of pain, instead of examining for more deeply-seated causes. Often the failure to make proper inquiry into these deeper causes is in part due to the prejudice felt by many laymen against a thorough examination when they have practically made the diagnosis for themselves; but it is far more frequently our own indifference that allows of such oversight. To have found a lesion that would satisfactorily account for the symptoms present in a given case is not alone sufficient; we should be skeptical as to the causal relation of the conditions found to the symptom of which complaint is made until all other causes have been eliminated. Otitis media may cause vertigo and headache; but there is no reason why a patient with a cerebellar abscess or tumor, which may give rise to the same symptoms, may not also have otitis media, either coincidentally or as a cause, treatment of which will not relieve the symptoms; and our patient may have the external auditory canal cleansed and the middle ear inflated until ophthalmoscopic examination, the occurrence of more distinctly localizing symptoms, or a sudden and unlooked-for opportunity for a necropsy may first accidentally show us our error, possibly when it is too late for us to offer relief.

Are we, then, it may be asked, to examine the eye-grounds of every case of vertigo; are we to examine for aneurism in every case of muscular rheumatism about the shoulder? The answer would be in the affirmative if we would wish to do justice to every case applying to us for relief. It is by just such careful and systematic examination that the best, because the most obscure, diagnoses are made.

In conclusion, we would venture to affirm that almost all of the glaring errors in diagnosis are made not from ignorance, not from failure to keep prominently in mind certain pathologic conditions, but from failure to thoroughly study each individual case to its most minute details.

THE THERAPEUTIC IMPORTANCE OF PROSTITUTION.

THAT prostitution is an evil is universally admitted. It is called the social evil, as if it were the greatest ill afflicting society. Many believe it necessary, thus asserting the futility of all efforts to destroy it.

When one studies the vice, hideous and enormous, and considers its consequences—the continuance and extension of loathsome, often perilous disease—and the sacrifice every year of thousands of women to man's depraved and worse than brutal lust, it must be questioned whether philanthropist or physician is at liberty to fold his arms, saying nothing can be done, and that an iron necessity compels this wickedness to persist unchecked. One of the most brilliant of English female writers, MONA CAIRD, a few years ago made this assertion in the *Westminster Review*: "Prostitution is as inseparable from our present marriage customs as the shadow from the substance." Most persons—in their blindness, probably MONA would say—regard marriage, even though without the facility of divorce she constantly clamors for, as the most efficient barrier against the evil.

Without referring to the prevalence of prostitution in Europe, where some of its causes are more powerful than in newer countries, the evil in the United States is very great. REUSS, in his work, *La Prostitution*, published in Paris, 1889, states that in New York there are from 13,000 to 15,000 prostitutes, and in Philadelphia a greater number, a fact which, if it be correct—the assertion is made upon the authority of a well-known American surgeon—ought to make those who dwell in the Quaker City blush with shame at this bad preëminence over the great commercial center of the country. We are within the bounds of reasonable conjecture in asserting that the entire number of courtesans in the United States is greater than 200,000. When one thinks of the horrible and hopeless life these hundreds of thousands are living, doomed to syphilis in from two to four years after they begin their loathsome trade, and prematurely ending their days in hospital, almshouse, jail, or penitentiary, he involuntarily asks, Can nothing be done to stay this flood of vice, crime, disease, and death? And if with the necessitarians, he finds the only answer negative, he may then inquire, Has the evil no redeeming feature, no good, or gain in the immense loss?

Yes; there is said to be springing from the foul mass a flower that brings healing. "The mummies," said SIR THOMAS BROWNE, "which Time or CAMBYSES hath spared, avarice now consumeth. PHARAOH is sold for balsams and MIRIAM cures cuts." And

so a doctor cries out in a recent American medical journal that prostitution cures onanism. In plain words, severe cases of self-abuse—which common people have regarded as a vile vice, but which is taken out of moral and placed in material pathology—are to be treated by sexual intercourse, legitimate if possible, but if not, then illegitimate. The position of the prostitute is thus exalted; she is for the healing of diseased men!

But the liability to syphilis is great from such illegitimate indulgence; the remedy may cause a worse disease, and the pitiable onanist gets out of the frying pan only to fall into the fire!

It is not uncommon or unwise for the doctor whose druggist fills his prescriptions with impure, unreliable, or injurious drugs, to get a supply of a proper kind, and dispense his own medicines. Why, then, should not the doctor who believes in this method of treating self-abuse have the means at hand and furnish the remedy himself, being perfectly certain from personal observation, or from personal experiment—it does not seem to matter which!—that the prescribed prostitute is free from venereal disease? The number of private hospitals for special treatment, advertised directly or indirectly in medical journals—a sort of advertising which the profession, and the highest authority in the profession in this country, the American Medical Association, repudiated some thirty years ago—is very great, and one can hardly believe that all of them are successful financially; the opportunity for a new department in this sort of trade seems very promising: if a hospital for the lauded sexual treatment of onanists were established and properly advertised, its financial success would be certain.

So far reference has been made only to the male onanist, but the female addicted to self-abuse will doubtless be amenable to the same treatment, and a similar sauce to that given the gander should be furnished the goose. This hospital of the new departure will therefore be supplied with a sufficient number of healthy, able-bodied men—muleteers, according to an old notion, being preferred—to meet the needs of female clients.

Should the hiring of men and women suitable for sexual service be too expensive, an economical plan would be to let the male onanist minister to the necessities of the female onanist—in curing her he cures himself—and thus there would be brought about a happy combination of two conflicting theories of life, egoism and altruism!

But seriously, when a teacher proclaims to the medical world how the penalties that often attend vicious sexual indulgence can be surely avoided, and thus promotes prostitution; and when another recommends that the prostitute should be employed for the cure of masturbation, the necessity for the social evil becomes a medical and professional concern.

If, as we believe erroneously, it be held that as physicians we have nothing to do with the purely ethical and social aspects of the question, we shall still feel ourselves compelled to protest that all this is sham and hypocritic medicine; that the concealed wolf of vicious license is but covering itself with the sheepskin of a false therapeutics; and that this lauded addition to the physician's materia medica is best described in one appropriate though inelegant bit of expressive slang—*rot!*

THE SPREAD OF DIPHTHERIA.

THERE are few diseases more fatal in a community than diphtheria, and there are few more difficult of eradication when once it has gotten a foothold. The germ-poison of the disease is so elusive and the modes of transmission so numerous and so obscure that no single channel of possible spread should be deemed insignificant or unworthy of the most careful consideration, and no measures calculated to reduce the possibility of extension should be lightly dismissed. The argument that the best treatment is prophylactic certainly does not here need reinforcement. It is a reasonable contention that a careful observance and a rigid application of the laws of hygiene would do much to eradicate the entire group of diseases to which diphtheria belongs. It must be realized that we possess the means of prevention, while the outcome in a given case cannot be known in advance, even as a result, or perhaps in spite, of therapeutic intervention. Not only is diphtheria a most virulent disease, but it is also a most contagious disease.

The question as to how long after the disappearance of the membrane the danger of contagion exists is one at once important and difficult of solution. In this connection, TOBIESON (*Centralbl. f. Bakteriologie u. Parasitenkunde*, xii, 17, p. 587) calls attention to the observation of ROUX and YERSIN that the bacillus of diphtheria may be found in the pharynx of persons that have suffered from the disease as long as five weeks after the dis-

appearance of the membrane. The accuracy of this observation has been confirmed by the investigations of other authorities. To determine in what proportion of cases the presence of the bacilli persists after the disappearance of the membrane, TOBIESON made examinations in forty-six cases of diphtheria in which the diagnosis had been established bacterioscopically; and found that in twenty-four the presence of bacilli could be demonstrated in the pharynx at various periods of time after the disappearance of the membrane. It was not found that the intensity of the attack bore any relation to the persistence of the bacilli in the pharynx or to the lateness of the period at which they were found; neither did the existence of albuminuria exercise any influence in this connection; the existence of laryngeal involvement, and especially of nasal involvement, did, however, exercise a notable influence. In five of the cases, the presence of the bacillus was demonstrated microscopically and by cultivation; in the remaining nineteen, guinea-pigs were inoculated with pure cultures of the organism obtained. Sixteen of the animals died, and presented characteristic manifestations. Two presented local swelling and pain, followed by necrosis; one of these died, but did not present the lesions of diphtheria; the other recovered. One animal presented local manifestations; after six weeks, paralysis of the hind extremities occurred, together with diarrhea and emaciation.

As a result of these observations the conclusion seems warranted that most cases of diphtheria, when dismissed from treatment, still possess the capability of transmitting the disease. To determine whether this inference was actually realized or not, twenty-one of the twenty-four cases were personally investigated with the view of learning if any or how many had been the focus of an epidemic. In only one instance was it found that a case had been the means of communicating the disease to others. While, perhaps, the likelihood of spreading diphtheria after convalescence from the disease is not great, the practical lesson taught by the study here outlined is that the greatest care should be exercised during this period, that the cases be not permitted to mingle too soon with other persons, and that for a long time after the disappearance of the membrane and of all of the symptoms of the disease, the patients be instructed to continue the employment of antiseptic gargles.

THE DEMAND FOR BETTER MEDICAL EDUCATION IN THE SOUTH.

THE subject of higher medical education is one that is now earnestly engaging professional attention. The problem is one worthy of the greatest minds, and its import is more far-reaching than upon first sight appears. From the very nature of the form and organization of our government, as well as of its teaching institutions, it is scarcely fair to compare these with those of older and more paternal forms of government. Good work is, however, being done to elevate the standard of medical education, by the requirement of certain preliminary qualifications, by prolonging the courses and period of study, by enlarging the curricula, and by making the final requirements for the doctorate a fair index as to the worthiness or unworthiness of the candidate. The advances that have been made have naturally not escaped a certain degree of antagonism common to innovations of all kinds; neither have they been universally concurred in.

In a paper recently read before the Tri-State Medical Society of Georgia, Alabama, and Tennessee, DR. LUTHER B. GRANDY[1] calls attention to a number of deficiencies in the medical education provided by most of the colleges and universities of the Southern States, and makes a strong plea for the eradication of these defects. Our own views have but so recently been fully presented, that it would be but tiresome repetition to here again recapitulate them. The diagnosis once made, the remedy is self-evident. Briefly stated, the following four conditions should be insisted upon:

1. The privilege of entrance upon the study of medicine should be made conditional upon compliance with certain definite educational requirements.

2. The term of study should include attendance upon not less than three courses of lectures of not less than six, and preferably of eight months each.

3. The curriculum should be as thoroughly practical as possible. Laboratory courses, clinical teaching, bedside demonstration, and recitations should largely replace didactic instruction.[2]

[1] Atlanta Medical and Surgical Journal, November, 1892.

[2] In this connection, we quote the following from an admirable address recently delivered by DR. OSLER on the occasion of the opening of the new building of the College of Medicine and Surgery of the University of Minnesota: *Thoroughly equipped laboratories, in charge of men thoroughly equipped as teachers and investigators, form the most pressing want to-day in the medical schools of this country.*

4. Final examinations should be reasonably rigid, so as to constitute a fair test of the capability of the candidate for graduation.

There have been many legitimate obstacles to the material and educational advancement of the South, but we receive this appeal of DR. GRANDY as an earnest of a better condition of affairs, and give expression to the hope that it may not pass unheeded. The change must come sooner or later. Those that anticipate the slow and natural course of events will have earned the everlasting gratitude and approbation of their fellow-men.

CORRESPONDENCE.

AN ARMLET FOR THE SURGEON.

To the Editor of THE MEDICAL NEWS,

SIR: Who has not seen the unsterilized rolled-up shirt-sleeve of the surgeon fall down below the elbow during an operation, and the surgeon inadvertently adjust it at the moment with his hand, and then go on working, entirely unconscious and forgetful of the contaminating touch?

I wish to suggest a little device, an armlet, that will prevent this; that will keep the shirt-sleeves up and out of the way, and that will, besides, afford greater freedom

of motion of the arms, hands, etc., of the surgeon while he is operating. I have with satisfaction adopted the employment of these armlets, in conjunction with the gown, at my clinic at the Jefferson Medical College Hospital. The accompanying sketch illustrates the armlet.

It is made of linen, and so constructed as to cover loosely the entire shoulder and armpit, and reach down the arm to just above the elbow, where it is gathered by a band. It is designed to be slipped over each rolled-up shirt-sleeve and pinned to the vest at the back and in front.

Excluding the band around the arm above the elbow, this armlet can be easily made of one piece of linen, with the seam under the armpit. It may be used with the folded sheet reaching from the neck to the ankles, commonly used by surgeons, or, as I prefer, with a brown linen gown, having only armholes through which the arm and shoulder of the corresponding side, covered with the previously-adjusted armlet, can be slipped.

The two armlets and the sheet, or gown, should be sterilized before using.

Very truly yours,

W. S. FORBES, M.D.

1704 WALNUT ST., PHILADELPHIA.

VIOLATIONS OF THE CODE.

To the Editor of THE MEDICAL NEWS,

SIR: Let me call the attention of your readers to the following resolutions, which were adopted by the American Medical Association many years ago, and which constitute part of its laws:

"*Resolved*, That it shall not be proper for specialists publicly to advertise themselves as such, or to assume any title not specially granted by a regularly chartered college."

"*Resolved*, That private handbills addressed to members of the medical profession, or by cards in medical journals, calling the attention of professional brethren to themselves as specialists, be declared in violation of the Code of Ethics of the American Medical Association."

It is notorious that some members of the Association are violating these laws, and, if they persist in transgression, such laws should either be abolished or their violators punished.

QUIZ QUAM.

PHILADELPHIA, NOVEMBER, 1892.

NEWS ITEMS.

The S. D. Gross Professorship of Pathological Anatomy Fund.—The Committee appointed by the General Committee to audit the account of Dr. Richard J. Dunglison, Treasurer of THE S. D. GROSS PROFESSORSHIP FUND of the Alumni Association of Jefferson Medical College, respectfully report that, after an examination of such account, they find that there were sixty contributors to the Fund, the total amount contributed being $3499.10. In accordance with a resolution of the General Committee these contributions have all been returned to the donors, and the Treasurer has presented a voucher for each amount thus refunded. A great portion of the whole amount has been retained undistributed until recently, so that the interest on the amount might so accumulate as to enable the Committee to refund to each subscriber the full amount of his contribution, without any deduction for expenses of publication of circulars, postage, etc., which were necessarily heavy, from the widespread diffusion given the objects of the Fund.

The names and addresses of the subscribers, and the amounts contributed by them, are as follows:

Dr. S. W. Gross, Philadelphia	$1000 00
" J. Marion Sims, New York	500 00
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" E. Grissom, Raleigh, N. C.	10 00
" W. L. Richardson, Montrose, Pa.	10 00
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" B. B. Lenoir, Lenoir's, Tenn.	5 00
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" W. W. Dale, Carlisle, Pa.	2 00
" R. C. Hays, Shippensburg, Pa.	1 00
" T. C. Brown, Columbus Junction, Iowa	1 00
Total	$3499 10

J. EWING MEARS, M.D.,
WILLIAM B. ATKINSON, M.D.,
Auditing Committee.

PHILADELPHIA, October, 1892.

The Maternity Department of the Jefferson Hospital.—The removal of the Maternity Department of the Jefferson College Hospital from its present location in the old hospital building on Sansom Street near Eleventh Street, has been decided upon because its present accommodations are insufficient in extent, and also because such patients are most safely cared for outside of a general hospital, which contains medical and surgical cases.

A house has been secured at No. 327 Pine Street, and will shortly be opened, where patients needing such services will be received and cared for. The building is located in a section of the city where no similar non-sectarian hospital exists. Anyone needing its care will be received without regard to creed or condition.

A resident physician and competent nurses will be in attendance, and nothing will be left undone to promote the comfort of the inmates.

Professional Failure and Success.—"It would appear from the statistics recently quoted by Sir John Lubbock, that very few who enter the medical profession entirely fail. Out of the 1000 medical students whose after-career came under the observation of Sir James Paget, there were apparently only 36 who were unsuccessful owing to circumstances over which they had no control. The actual number of men who did not succeed was 56; but of these, 10 failed through drunkenness, and the same number through ill-health or accident. Twenty of the 1000 'left the profession,' but whether they did so because they inherited wealth or married rich wives is not stated. One of the 1000 was Palmer, the celebrated murderer, who was hanged."—*From London letter to the American Lancet*, Nov. 1892.

A Roster of the Meetings of Medical Societies.—It is the purpose of THE NEWS to publish regularly hereafter notices of the approaching meetings of the principal medical societies of the chief cities of the country that are to take place during the coming week. This list is designed merely to remind the reader of the probably-forgotten fact that a meeting is to take place. The members are supposed to know the place of meeting, the hour, and the program. It is evident that the list cannot include the meetings of small societies, those of a very limited or special membership, such as college societies, etc., or those of village and country societies. Secretaries of National and State societies, and of the more important associations of the larger cities, will confer a favor upon their fellow-members and upon THE NEWS by forwarding to this office the notices of the meetings that are to take place during the ensuing week, and, in order to be inserted in the issue of that week, these should reach us not later than Tuesday.

Physicians who do not find the notices of the meetings of their societies listed will advise the respective secretaries of the fact.

COMMUNICATIONS are invited from all parts of the world. Original articles contributed exclusively to THE MEDICAL NEWS will upon publication be liberally paid for, or 250 reprints will be furnished instead of payment, provided that the request for reprints be noted by the author at the top of the manuscript. When necessary to elucidate the text, illustrations will be provided without cost to the author.

Address the Editor: GEO. M. GOULD, M.D.,
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The prescribed dose produces a feeling of buoyancy, and removes depression and melancholy: *hence the preparation is of great value in the treatment of mental and nervous affections.* From the fact, also, that it exerts a double tonic influence, and induces a healthy flow of the secretions, its use is indicated in a wide range of diseases.

NOTICE—CAUTION.

The success of Fellows' Syrup of Hypophosphites has tempted certain persons to offer Imitations of it for sale. Mr. Fellows, who has examined samples of several of these, ***finds that no two of them are identical,*** and that all of them differ from the original in composition, in freedom from acid reaction, in susceptibility to the effects of oxygen when exposed to light or heat, ***in the property of retaining the strychnine in solution,*** and in the medicinal effects.

As these cheap and inefficient substitutes are frequently dispensed instead of the genuine preparation, physicians are earnestly requested, when prescribing the Syrup, to write, "Syr. Hypophos. ***Fellows.***"

As a further precaution, it is advisable that the Syrup should be ordered in the original bottles; the distinguishing marks which the bottles (and the wrappers surrounding them) bear, can then be examined, and the genuineness—or otherwise—of the contents thereby proved.

Medical Letters may be addressed to:

Mr. FELLOWS, 48 Vesey Street, New York.